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SOUTHWEST FISHERIES CENTER
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FISHERY STATISTICS OF THE WESTERN PACIFIC, VOLUME III

Territory of American Samoa (1985-86)
Commonwealth of the Northern Mariana Islands (1985-86)
Territory of Guam (1985-86)
State of Hawaii (1985-86)

COMPILED BY

David C. Hamm and Michael M. C. Quach
Southwest Fisheries Center Honolulu Laboratory
National Marine Fisheries Service, NOAA
Honolulu, Hawaii 96822-2396

NOT FOR PUBLICATION

ADMINISTRATIVE REPORT H-88-4

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Southwest Fisheries Center Administrative Report H-88-4

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PREFACE

In recent years, the demand for data and information concerning marine fisheries has greatly increased. To help meet these increased needs in the central and western Pacific areas, the National Marine Fisheries Service's Southwest Fisheries Center initiated the Western Pacific Fishery Information Network (WPACFIN), which assists Pacific island fisheries agencies in upgrading their data collecting, processing, and reporting capabilities. Several agencies are participating in this program: the National Marine Fisheries Service's Southwest Fisheries Center and its Honolulu Laboratory, and the Southwest Region and its Western Pacific Program Office, American Samoa's Department of Marine and Wildlife Resources, the Commonwealth of the Northern Mariana Islands' Division of Fish and Wildlife, Guam's Division of Aquatic and Wildlife Resources, Hawaii's Division of Aquatic Resources, and the Western Pacific Regional Fishery Management Council.

In 1982, these agencies formed a Fisheries Data Coordinating Committee (FDCC) and a FDCC Technical Subcommittee to help guide, coordinate, and monitor all of the many activities being undertaken by each agency to improve their systems. Significant progress has been made by all participating agencies, particularly in the areas of upgrading data collecting and processing systems.

As a major step in improving and coordinating the data reporting and distributing systems of the agencies, in May 1985, the FDCC agreed to begin producing a combined document reporting each island's major fisheries statistics. Production of the document would be the responsibility of the FDCC Technical Subcommittee and would be coordinated by the WPACFIN program manager. Each agency would supply required summaries, graphs, and text for its respective chapter of the report; WPACFIN would combine the chapters and distribute the document as part of the Administrative Report Series of the Southwest Fisheries Center.

The first volume of "Fishery Statistics of the Western Pacific" contained summaries of commercial fishery landings for American Samoa (1982-84), the Commonwealth of the Northern Mariana Islands (1979-84), and Hawaii (1979-84). The second volume contained information on landings for Guam (1979-84), and this third volume provides summary fisheries statistics for 1985 and 1986 from all four island areas. Subsequent volumes of this report series will contain annual updates of information from these four areas.

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BACKGROUND

This report has been compiled by governmental fisheries agencies of several islands in the central and western Pacific area in a cooperative and continuing effort to improve the availability and dissemination of fisheries information. The data contained herein have been collected, computerized, edited, and processed by agencies participating in the Western Pacific Fishery Information Network (WPACFIN), including American Samoa's Department of Marine and Wildlife Resources (DMWR), the Commonwealth of the Northern Mariana Islands' (CNMI) Division of Fish and Wildlife (DFW), Guam's Division of Aquatic and Wildlife Resources (DAWR), Hawaii's Division of Aquatic Resources (HDAR) and the Southwest Fisheries Center's (SWFC) Honolulu Laboratory, National Marine Fisheries Service (NMFS). The data summaries and graphs contained in this document were prepared by WPACFIN staff at the Honolulu Laboratory from data collected by WPACFIN or provided by these agencies. Data from DMWR, DFW, and DAWR were supplied on floppy diskettes in established WPACFIN data base formats, whereas data on the Guam commercial fisheries were collected on forms provided to fish wholesalers by WPACFIN. Data for Hawaii were from monthly summaries published by HDAR and coded and entered into computer format by Honolulu Laboratory data processing staff. Once the data were put into the proper format on the central WPACFIN computer and appropriate edit and verification procedures completed, summary reports and files were produced using software developed specifically for this purpose. Graphs were produced using commercially available software and a lazerjet printer from summary files that were "downloaded" from the central computer to a different microcomputer.

PROGRESS

In 1981, when WPACFIN began assisting agencies in improving their data collecting and processing systems, only the State of Hawaii had computerized processing. By mid-1982, fisheries offices in American Samoa, Guam, and the CNMI had implemented computerized processing on microcomputers supplied by WPACFIN. Since that time, these agencies have made many significant improvements to their data collecting systems and have established sound automated data processing systems. Most agencies can now provide fishery statistics to WPACFIN within 45 days of the date of collection. The HDAR has also improved its systems in recent years and has significantly reduced the lag time in data processing from about 2.5 years to less than 1 year. It has also improved the procedures used for editing, updating, and processing Hawaii's data. Implementation of additional planned improvements could reduce the lag time to about 6 months.

PRECAUTIONS

Data collecting and processing systems vary greatly among Pacific island fisheries agencies. Although much standardization has taken place and is continuing, there remain many unique aspects of each island's systems based on local needs and capabilities. When using summaries contained in this report, especially if making comparisons, one should keep in mind the nature of the systems used to produce the data. For instance, Hawaii's data are based on mandatory monthly reporting by licensed commercial fishermen, CNMI's data are based on voluntary monthly reporting of fish buyers using government-provided invoices, Guam's data are from WPACFIN-sponsored voluntary reporting by major commercial dealers and DAWR-operated creel survey sampling and data expansion programs, and American Samoa's data are based on an integration of almost daily interviews of fishermen and a new creel survey and data expansion program similar to Guam's. Each system has advantages and disadvantages, and the user should be aware of them when comparing or interpreting data.

The user should also be aware that species assemblages vary among island groups, as do cultural preferences and principal fishing techniques. Population size is of particular importance when making interpretations of the relative value and importance of the fisheries. To help the user make these value judgments, more detailed explanations of the data collecting and processing systems are provided in each island's section of this report.

CONTENTS

This document is divided into sections by island group. Each section contains reports on the monthly and annual landings by species or species groups for the commercial fleet. The sections for American Samoa and Guam also contain estimates of total catch and effort of all fisheries including recreational and subsistence fishing activities. These estimates and their associated confidence limits were generated by computer-based data expansion systems using sample fishery data collected by creel survey programs. Commercial landings for American Samoa were calculated based on information gathered during the offshore creel survey sampling program. Two sets of annual summaries are included for Hawaii, one each for commercial landings that were sold and not sold.

Definitions

In addition to the description of the systems and the monthly and annual reports, each section contains graphs of some of the summary fishery statistics of particular interest or importance to participating WPACFIN agencies. For purposes of

graphical presentation of the data, several categories have been defined for each island's fisheries. Because of differences in reporting systems and capabilities among the islands, species contained within each category may vary, but all categories are documented in each island's section. Overlap exists among some of the categories used for different graphs. Categories used in the graphs include the following:

1. Fisheries Categories - These are combinations of species of similar ecological types, specifically, pelagic, bottom fish, reef fish, and "other." "Other" includes groups that generally traverse these categories, such as sharks and certain jacks, or are not typically included in these groups, such as mullet and milkfish.

2. Pelagic Management Unit Species (PMUS) - Defined in the Fishery Management Plan for pelagic species to include the billfishes, wahoo, mahimahi, and sharks.

3. Bottom Fish Management Unit Species (BMUS) - Defined as the species of initial importance in the Fishery Management Plan for bottom fish and seamount fisheries, including the major deepwater snapper, grouper, emperor, and certain jacks.

4. Tunas - Predominantly skipjack and yellowfin tunas in all areas, but also including most other tuna species and excluding wahoo.

5. Other Tunas - All tunas as defined above, but excluding skipjack and yellowfin tunas.

6. Billfish - Combination of all marlin, sailfish, spearfish, and swordfish species.

7. Other Methods - In the American Samoa and Guam sections, fishing methods other than trolling and bottom fishing are combined into this single "other" category for certain graphs.

Graphics

Generally speaking, a minimum of four types of graphs are provided with each island's data. The chapters for American Samoa and Guam have an additional type of graphics on catch and effort from their creel survey data. Type I graphs present summary charts of the major species and species groups for each year. Type II graphs are seasonality plots for the major species or species groups, showing the average weight landed during each month for all years combined. Type III graphs are based on annual summary statistics and help visualize the variability among years. Type IV graphs are plots of monthly

landings of some of the major commercially important species and document fluctuations in landings of these species over the entire time series. Type V graphs are based on creel survey data and include plots of catch and effort by fishing method plus a combination of several of the types I-IV graphs.

I. Monthly graphs for each year's data including:

- A. Major fisheries categories
- B. Tunas, PMUS, and BMUS
- C. Wahoo, mahimahi, and billfish
- D. Skipjack, yellowfin, and other tunas

II. Plots of average monthly landings for:

- A. Tunas, PMUS, and BMUS
- B. Wahoo and mahimahi
- C. Billfish species:
  1. Marlin and sailfish - American Samoa and CNMI
  2. Blue marlin, black marlin, and striped marlin - Hawaii
  3. Sailfish, shortbill spearfish, and swordfish - Hawaii
- D. Skipjack, yellowfin, and other tunas
- E. BMUS and the most important bottom fish species
  1. BMUS, ehu, and onaga - American Samoa
  2. BMUS, emperor, and grouper - CNMI and Guam
  3. BMUS, onaga, and opakapaka - Hawaii
  4. BMUS, ehu, and uku - Hawaii

III. Graphs of annual summary statistics for:

- A. Major fisheries categories
- B. Total commercial landings - pounds and dollars
- C. Tunas, PMUS, and BMUS
- D. Wahoo, mahimahi, and billfish
- E. Skipjack, yellowfin, and other tunas

IV. Graphs of monthly landings over the entire time series for the following major species:

- A. Wahoo - All four areas
- B. Mahimahi - All four areas
- C. Blue marlin - All four areas
- D. Black marlin - Hawaii
- E. Striped marlin - Hawaii
- F. Sailfish - American Samoa, Guam, and Hawaii
- G. Shortbill spearfish - Guam and Hawaii
- H. Swordfish - Hawaii
- I. Skipjack tuna - All four areas
- J. Yellowfin tuna - All four areas
- K. Opakapaka - Hawaii
- L. Onaga - American Samoa and Hawaii

M. Uku - Hawaii
N. Ehu - American Samoa and Hawaii
O. Emperors - CNMI and Guam
P. Grouper - CNMI and Guam

V. Graphs of certain statistics generated by creel surveys for American Samoa and Guam

A. Monthly catch by method
B. Monthly effort by method
C. Annual catch by method
D. Annual effort by method
E. Seasonality plots of major species
F. Annual landings trends of major species

Territory of American Samoa

Fishery Statistics 1985 and 1986

AMERICAN SAMOA FISHERY STATISTICS
1985 AND 1986

Compiled By

American Samoa
Department of Marine and Wildlife Resources
and the
Western Pacific Fishery Information Network

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AMERICAN SAMOA FISHERY STATISTICS, 1985 AND 1986

INTRODUCTION

American Samoa (approximately lat. 14°S, long. 170°W) is composed of the major island of Tutuila, where about 87% of the total population of 35,000 live; Aunu'u, a small island less than 1 mile off Tutuila's southeast shore; the Manu'a Islands of Ofu, Olesaga, and Ta'u, located about 105 km (65 miles) east of Tutuila and having about 4,300 residents; the uninhabited Rose Atoll, some 290 km (180 miles) east of Tutuila; and Swain's Island about 350 km (220 miles) north of Tutuila, where approximately 20 people live. The American Samoa Department of Marine and Wildlife Resources (DMWR), formerly the Office of Marine Resources, located in Pago Pago on Tutuila, has been collecting commercial fisheries data from the local fleet on Tutuila since the early 1970's and from the Manu'a Islands since 1983. Most data collected over the years have been from the commercial fleet, but beginning in October 1985, DMWR's data collection programs were modified to include data on recreational and subsistence fisheries as well.

The domestic fisheries of American Samoa are typically small boat, one-day fisheries. Although one domestic longliner operated for a few years, the majority of the fleet is composed of two types of 28- to 29-foot outboard engine powered catamarans called alias and manta cats. During 1986, 56 boats were sampled--42 Tutuila boats, 10 Manu'a boats, and 4 boats that off-loaded at both Tutuila and Manu'a. Fishing is mostly by trolling and bottom fishing methods, and the majority of the catch is sold locally, but some is exported to Hawaii. During 1986, on average, Tutuila boats had three-man crews, fished 12.5-hour trips, and caught 181 pounds of fish, whereas Manu'a boats, on average, had four-man crews, fished 5-hour trips, and caught 163 pounds of fish.

DATA COLLECTING SYSTEM

The major method used by DMWR for obtaining catch statistics has always been interviewing fishermen at the end of their trips. Before October 1985, the DMWR data collectors kept records of as much commercial fishing activity as possible and routinely obtained interviews from fishermen as often as possible. This method of data collection provided accurate information on the commercial fleet for the trips where interviews were conducted, but was very labor intensive, did not cover all trips, and intentionally excluded the recreational and subsistence fisheries. Therefore, in October 1985, a new sampling program was implemented on Tutuila to provide better coverage and statistics for all boat-based fisheries. The new sampling methods were not implemented in the Manu'a Islands

because the fishing fleet is centrally located and is small enough that statistics were being collected for nearly every trip.

The new sampling program for Tutuila was based on a survey design that had been used in Guam for about 4 years. This systematic, random sampling program stratifies sampling by type of day, either weekday or weekend-holiday. For the new program, DMWR staff normally sample 2 weekdays and 1 weekend-holiday per week. In addition, they obtain as many interviews as possible on their "off days" to maintain as much overall coverage of the fisheries as possible. During official survey days, counts of total participation are collected to facilitate expansion of the survey data to estimates of total catch and effort for Tutuila. Unless contrary information is available, a boat is assumed to be fishing if it is "out," as evidenced by its trailer at a boat ramp or being missing from its normal berthing area. Tutuila is divided into six areas, five of which are sampled. Presumably, fishing activity and success rate of boats in the non-sampled area are similar to those in the sampled areas. Further assumptions are that information given by the fishermen during the interview is accurate and that the fishermen interviewed are representative of the entire fishing population.

Survey data are collected in the field on interview log sheets and returned to the DMWR office for editing. The following information is collected for each interview:

* Date
* Type of day
* Time
* Boat name
  Captain or boat owner's name
* Method of fishing
* Disposition of catch
* Species caught
  Number of pieces for each species
* Weight in pounds for each species
  Price per pound for each species
  Area fished
* Home island
  Number of trips since last interview
* Total trip weight in pounds
  Total hours fished (trip length)
  Number of fishermen
  Number of gear used

It is not always possible for the interviewer to obtain information on all items listed. However, the ones marked with an asterisk (*) are considered essential for data expansion purposes. The "TIME" field is used to distinguish between interviews collected on survey days versus "off days." Only data collected on official survey days are used in the data

expansion process. Identification and weight of each species are often not obtainable; in which case, a code for species groupings (e.g., miscellaneous bottom fish) is used.

DATA PROCESSING SYSTEM

Interview forms are returned to the office, edited, coded, and entered into computerized data bases--the commercial landings data base for data collected before October 1985, and the offshore creel survey data base for data collected since then. Edit and summary reports are produced to help verify that the data were entered correctly. The creel survey data bases are then translated into standard record formats to be used by the American Samoa Offshore Expansion System (ASOES), programmed by WPACFIN specifically for DMWR. As data are converted into ASOES formats, additional error checks are performed by the computer to make sure only valid information enters the expansion system. The ASOES is a menu-driven system that steps the user through a series of processes that summarize creel survey data to produce catch and effort expansion and species composition files and reports. Typically 1 month of data is processed at a time, although the system allows for processing broader time increments of data.

The expansion system generates estimates of daily catch, effort, and participation for each fishing method. These daily estimates are considered measurements of the Tutuila fisheries for that day. Average weekday and weekend-holiday estimates and their associated variances or confidence intervals are created from individual daily measurements. These are weighted by the number of each type of day in the month, or other timespan being expanded, and multiplied by proportionality constants that adjust for percent coverage to produce estimates of total catch, effort, and participation along with their confidence intervals. Percent species composition by weight is calculated from the sampled catch and used to create estimates of total landings by species by multiplying the sampled percent by the expanded estimated catch. All steps in the expansion process are stratified by fishing method. The ASOES produces reports and files of the final totals for all important catch and effort statistics. These files are later used to produce the reports contained in this document. On a quarterly basis, copies of the DMWR data bases are sent to the Honolulu Laboratory for updating the central WPACFIN files.

At the Honolulu Laboratory, the data are translated into different formats and transferred to the central computer for further editing, verification, and processing before generation of summary reports. Because DMWR changed their data collecting systems during 1985, new processing procedures were established by WPACFIN to standardize reports as much as possible to facilitate comparisons between years. Data collected before

October 1985 were adjusted upward by the percent coverage to account for missed trips. The offshore creel survey data collected since October 1985 were expanded to estimates of total Tutuila landings using ASOES and then separated into commercial versus noncommercial landings (e.g., sold versus not sold). The expansion and separation algorithms stratify the data by fishing method to improve the final estimates of landings by species. After the file of estimated commercial landings for Tutuila was created from the ASOES files, the adjusted commercial landings for Manu'a were added to it, thereby creating the commercial landings data base for American Samoa. Additionally, because price information was not obtained for all landings that were sold, the commercial data were edited to create price information when none was available. To accomplish this, a three-tiered editing system was designed to "create" price estimates based on the best information available. The edit system puts average price information in each record where it is missing, based on the following three levels of available information:

1. If price information is available for the same species in the same month, the weighted average price per pound is written into all records missing that information for that species and month.

2. If no price information is available for the same species and same month, the annual weighted average price for that species is written into records for that species and month.

3. If no price information is available for a species for the entire year, the program prompts the user for input and updates the file based on the response.

As data base records are updated, each is flagged to indicate which level of estimation was used for the price information. This makes it possible to easily exclude the "created" data, if desired, when doing economic analysis.

DATA REPORTING SYSTEM

After all editing, quality control, and other processing activities are completed on the central WPACFIN computer, monthly and annual commercial landings reports by species are prepared. Volume I of this series presented unadjusted commercial landings information for 1982-84. Because the new system produces reports of commercial landings that have been adjusted or expanded from data base figures to estimates of total commercial landings, new annual reports for adjusted commercial landings for 1982-84 are presented in this volume for comparison purposes. These new 1982-84 commercial landings reports were created by adjusting the annual summary data by the

sampling percent coverage for the entire year. Reports of monthly and annual estimated total commercial landings by species are provided for 1985-86 as well.

Each of the commercial landings reports contains the common name, weight in pounds, value in dollars, and the average price per pound of each species or species group. Each monthly report contains a subtotal for the sum of all species for that month, and the December report contains the December subtotal and the annual total. Annual reports contain the total estimated commercial landings for each species and for all species combined for the calendar year.

Total landings reports are provided separately for Manu'a and Tutuila. The Manu'a total landings reports were generated by adjusting the recorded Manu'a landings by the percent coverage for those fisheries. Monthly and annual estimated total landings reports are provided for the Manu'a Islands for 1985-86. Two types of total Tutuila landings reports are included in this document from the creel survey data expansion system, ASOES: catch and effort expansion reports and species composition reports. These reports were produced by using the expansion and species composition files created by ASOES as input to utility programs developed by WPACFIN. The utility programs reorganize, format, and summarize data from ASOES files to improve the presentation of data and reduce the amount of space required to report the important statistics. Monthly and annual reports from ASOES include the expansion summary of catch and effort statistics by fishing method and the summary species composition reports for all methods combined. Monthly reports are presented for October 1985 through December 1986, and calendar year reports are included for 1986.

Monthly expansion and species composition reports have matching totals for catch by fishing method since the monthly species composition reports are based on the expansion files. Annual expansion and species composition reports also have identical totals because the species reports were generated from the annual expansion files. However, the totals on the annual reports will not equal those obtained by adding all of the monthly files together because the annual expansion reports were generated by re-expanding the entire year's data together, thereby increasing the sample size significantly, and it is hoped, improving the annual estimates of percent species composition and of catch and effort and their associated coefficients of variation (CV's). The annual species composition reports were created by calculating annual percentages of species composition by combining all sampling for the year and then multiplying these percentages by the annual expansion totals. This allows calculation of annual percent species composition based on greatly increased sample size.

Computer generated numbers and all totals in the reports are subject to rounding error. All catches are reported in pounds, and effort, in boat hours. In the offshore expansion reports, the boat counts by fishing method will not add to the total boat count when the same boat was used for more than one method on a single trip. In these cases, the boat is included in the count for each method used but included only once in the total count. A CV is included for each statistic in the expansion reports. The CV provides a measurement of the relative variation associated with the estimate preceding it and is calculated by dividing the standard error of the estimate by the estimate and multiplying by 100 and rounding to express the answer as a whole percentage. The larger the CV, the larger the relative variation in the data used to generate the estimate and, therefore, the less precise the estimate. An asterisk following a line means the number of samples collected for that method during that month were insufficient to properly calculate the CV. There must be at least two weekday and two weekend-holiday samples for each method to properly compute a standard error and, therefore, properly compute the CV. If an asterisk is present and the CV is greater than zero, then samples on either weekdays or weekend-holidays were sufficient to compute a standard error for that type of day but not for the other type of day. In this case, the CV provided in the report is for the type of day in which sample information met the minimum requirements for calculating CV. If an asterisk is present and the CV equals zero, then neither type of day had sufficient number of samples to calculate CV. It follows then, anytime an asterisk is present for any of the fishing methods, the totals for the month are questionable.

In fisheries applications, calculation of catch per unit of effort (CPUE) may be done in several ways. In the ASOES expansion reports, average monthly CPUE is calculated by using the same type of algorithm as for the other expansion elements, and it has an associated CV. First, the average daily CPUE is calculated by dividing the total weight of the fish sampled for a day by the total number of hours fished to produce that catch. Next, the average weekday and weekend-holiday CPUE's are calculated by summing the average daily CPUE's for each type of day and then dividing by the number of survey days for each type of day. These averages are multiplied by the number of weekdays and weekend-holidays, respectively, in that month, then the products are summed and divided by the total number of days in the month to produce the average monthly CPUE for each fishing method. The average monthly CPUE could also be calculated by dividing the estimated monthly catch by the estimated monthly boat hours, but this would provide no indication of the variability of the CPUE and also essentially weight the average CPUE by the level of participation. Therefore, the CPUE provided in the monthly and annual expansion reports will not be equal to the catch divided by the effort as presented in those reports.

The following species, species groups, and abbreviations are used in the tables and graphs of American Samoa's data:

I. Pelagic Management Unit Species (PMUS)

Dolphin (mahimahi)
Blue marlin
Black marlin
Sailfish
Shortbill spearfish
Wahoo
Sharks

II. Bottom Fish Management Unit Species (BMUS)

Jacks (unclassified)
Black jack
Amberjack
Giant trevally
Bottom fish (unclassified)
Groupers (unclassified)
Blacktip grouper
Lunartail grouper
Snappers (unclassified)
Bluelined snapper
Gray jobfish (uku)
Deepwater bottom fish (unclassified)
Yellow opakapaka
Hawaiian opakapaka
Opakapaka
Gindai (flower snapper)
Yellowtail snapper
Lehi (silverjaw snapper)
Onaga (red or longtail snapper)
Ehu (red snapper)
Emperorfish (unclassified)
Ambon emperor
Redgill emperor

III. Billfish

Blue marlin
Black marlin
Sailfish
Shortbill spearfish

IV. Tunas

Tunas (unclassified)
Skipjack tuna
Yellowfin tuna
Dogtooth tuna
Albacore
Bigeye tuna
Kawakawa

V. Other Tuna

The above tuna species excluding skipjack and yellowfin tuna

VI. Fisheries Categories

A. Pelagics

All PMUS and tuna species plus the following:
Troll fish (unclassified)
Barracuda
Rainbow runner

B. Bottom Fish

All BMUS plus the following:
Bigeye trevally
Bluefin trevally
Goldspot trevally
Trevally
Whitemouth trevally
Peacock grouper
Flagtail grouper
Tomato grouper
Yellowspot grouper
Striped grouper
Spotted grouper
Small mouth grouper
Giant grouper
Rufous snapper
Blacktail snapper
Onespot snapper
Twinspot/red snapper
Humpback snapper
Blood snapper
Brown snapper
Bluelined gindai
Black snapper
Stone's snapper
Kusakar's snapper
Bigeye emperor
Goldenline bream

B. Bottom Fish (cont.)

Longnose emperor
Bluelined bream
Orangespot emperor
Snake mackerel
Oilfish

C. Reef Fish

Reef fish (unclassified)
Mullet
Rabbitfish
Surgeonfish and tangs (unclassified)
Lined surgeon
Yelloweyed surgeon
Convict tang
Dussumier's surgeon
Spotted surgeon
Unicornfish
Squirrelfish (unclassified)
Berndt's soldierfish
Bigeye squirrelfish
Parrotfish
Terapon perch
Wrasse
Goatfish (unclassified)
Pink goatfish
Inshore groupers (unclassified)
Triggerfish
Butterflyfish
Porcupinefish
Inshore snappers (unclassified)

D. Other

Miscellaneous
Bigeye scad
Sharks
Rays
Eels
Invertebrates (unclassified)
Crabs (unclassified)
Kona crab
Mangrove crab
Spiny lobster
Slipper lobster
Shrimp
Octopus
Squid
Clams
Turtle

INTERPRETATION OF STATISTICS

The user is reminded to pay heed to the precautions and assumptions identified earlier in this document, when making interpretations of or inferences from data reported in the tables and graphs. Remember also that neither the commercial landings summaries nor the creel summaries are based on a census of all the fishing activities, but on samples of those activities. One of the major factors in expanding the creel survey data into monthly and annual estimates is the use of proportionality constants to adjust for percent coverage of the surveys. The flexibility of the survey design allows for refinement of these constants as additional information is gained on the fishing activities. If the constants are improved upon, the basic survey data can be re-expanded to create better overall estimates. However, the variability and species composition would not be expected to change since these statistics are strictly based on the actual survey information collected from the fishermen. To obtain the best estimate of total landings for American Samoa, the information from the Manu'a reports must be added to the Tutuila creel survey information. This will produce conservative estimates of total landings because the inshore fisheries are currently not included in DMWR's sampling programs. However, WPACFIN has developed the basic design for inshore sampling and data expansion systems, and DMWR plans to implement them when resources become available.

Table II.1.1

AMERICAN SAMOA 1982 ANNUAL ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	82.00	130.00	1.59
BIGEYE SCAD	1896.00	3315.00	1.75
JACKS	139.00	244.00	1.76
BLACK JACK	20.00	35.00	1.75
BARRACUDAS	224.00	392.00	1.75
SMALL BARRACUDA	69.00	121.00	1.75
SHARKS	45.00	79.00	1.76
RAYS	30.00	30.00	1.00
EELS	56.00	60.00	1.07
BOTTOM FISH	50294.00	87870.00	1.75
GROUPERS	141.00	247.00	1.75
FLAGTAIL GROUPER	10.00	17.00	1.70
GIANT GROUPER	282.00	282.00	1.00
LUNARTAIL GROUPER	504.00	881.00	1.75
BLUE LINED SNAPPER	1209.00	2115.00	1.75
ONESPOT SNAPPER	7.00	9.00	1.29
HUMPBACK SNAPPER	561.00	981.00	1.75
GRAY JOBFISH	230.00	433.00	1.88
DEEPWATER BOTTOMFISH	2349.00	6977.00	2.97
YELLOW OPAKAPAKA	40.00	60.00	1.50
HAWAIIAN OPAKAPAKA	68.00	118.00	1.74
OPAKAPAKA	406.00	811.00	2.00
BLUE LINED GINDAI	13.00	22.00	1.69
GINDAI (FLOWER SNAP)	82.00	139.00	1.70
LEHI (SILVERJAW)	216.00	370.00	1.71
ONAGA (RED SNAPPER)	1002.00	3796.00	3.79
EHU (RED SNAPPER)	1345.00	2851.00	2.12
EMPERORS (MISC)	2910.00	5090.00	1.75
LONGNOSE EMPEROR	150.00	263.00	1.75
BLUELINE BREAM	21.00	37.00	1.76
SNAKE MACKEREL	17.00	30.00	1.76
REEF FISH	52220.00	86651.00	1.66
RABBITFISH	15.00	27.00	1.80
LINED SURGEON	4461.00	7807.00	1.75
YELLOW EYED SURGEON	138.00	242.00	1.75
DUSSUMIER'S SURGEON	52.00	90.00	1.73
SPOTTED SURGEONFISH	61.00	107.00	1.75
UNICORNFISH (MISC)	1489.00	2605.00	1.75
UNICORNFISH	678.00	1188.00	1.75
SQUIRRELFISH	1161.00	2033.00	1.75
SABER SQUIRRELFISH	9.00	16.00	1.78
BERNDT'S SOLDIERFISH	6.00	10.00	1.67
BIGEYE SQUIRRELFISH	49.00	86.00	1.76
PARROTFISH	2284.00	3998.00	1.75
GOATFISH	7.00	12.00	1.71

Table II.1.1 (Cont)

AMERICAN SAMOA 1982 ANNUAL ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
INSHORE GROUPERS	70.00	122.00	1.74
TRIGGERFISH	6.00	10.00	1.67
TROLL FISH	923.00	745.00	0.81
DOLPHIN (MAHIMAHI)	745.00	745.00	1.00
BLUE MARLIN	315.00	284.00	0.90
SAILFISH	127.00	114.00	0.90
RAINBOW RUNNER	24.00	42.00	1.75
WAHOO	113.00	102.00	0.90
TUNAS	18.00	11.00	0.61
SKIPJACK TUNA	15005.00	12083.00	0.81
DOGTOOTH TUNA	170.00	210.00	1.24
YELLOWFIN TUNA	6933.00	6787.00	0.98
KAWAKAWA	109.00	109.00	1.00
SPINY LOBSTER	4201.00	12266.00	2.92
OCTOPUS	4.00	6.00	1.50
SQUID	3.00	6.00	2.00
GIANT CLAM	135.00	135.00	1.00
** TOTAL **	155949.00	256455.00	

Table II.2.1

AMERICAN SAMOA 1983 ANNUAL ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	517.00	887.00	1.72
BIGEYE SCAD	130.00	389.00	2.99
JACKS	1962.00	3344.00	1.70
BLACK JACK	151.00	193.00	1.28
BIGEYE TREVALLY	19.00	11.00	0.57
BLUEFIN TREVALLY	6.00	6.00	1.00
AMBERJACK	111.00	194.00	1.75
BARRACUDAS	579.00	987.00	1.70
MULLETS	162.00	285.00	1.76
SHARKS	293.00	510.00	1.74
BOTTOM FISH	77359.00	135296.00	1.75
GROUPERS	1705.00	2978.00	1.75
FLAGTAIL GROUPER	4.00	6.00	1.50
TOMATO GROUPER	167.00	253.00	1.51
BLACKTIP GROUPER	6.00	10.00	1.67
STRIPED GROUPER	22.00	52.00	2.36
GIANT GROUPER	348.00	359.00	1.03
LUNARTAIL GROUPER	198.00	347.00	1.75
SNAPPERS	52.00	65.00	1.25
BLUE LINED SNAPPER	2973.00	4872.00	1.64
BLACKTAIL SNAPPER	111.00	158.00	1.42
ONESPOT SNAPPER	342.00	543.00	1.59
TWINSPOT/RED SNAPPER	259.00	372.00	1.44
HUMPBACK SNAPPER	1174.00	2053.00	1.75
BROWN JOBFISH	52.00	90.00	1.73
GRAY JOBFISH	5943.00	14598.00	2.46
YELLOW OPAKAPAKA	1618.00	6575.00	4.06
HAWAIIAN OPAKAPAKA	173.00	454.00	2.62
GINDAI (FLOWER SNAP)	918.00	2018.00	2.20
YELLOWTAIL SNAPPER	13.00	14.00	1.08
LEHI (SILVERJAW)	4512.00	10246.00	2.27
ONAGA (RED SNAPPER)	13738.00	60254.00	4.39
EHU (RED SNAPPER)	5808.00	14450.00	2.49
STONE'S SNAPPER	2039.00	3396.00	1.67
KUSAKAR'S SNAPPER	25.00	45.00	1.80
EMPERORS (MISC)	3253.00	5679.00	1.75
LONGNOSE EMPEROR	65.00	81.00	1.25
SNAKE MACKEREL	41.00	71.00	1.73
REEF FISH	21835.00	38163.00	1.75
LINED SURGEON	1874.00	3280.00	1.75
YELLOW EYED SURGEON	434.00	758.00	1.75
CONVICT TANG	9.00	16.00	1.78
DUSSUMIER'S SURGEON	165.00	288.00	1.75
SPOTTED SURGEONFISH	19.00	32.00	1.68
UNICORNFISH (MISC)	424.00	740.00	1.75
UNICORNFISH	89.00	156.00	1.75

Table II.2.1 (Cont)

AMERICAN SAMOA 1983 ANNUAL ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
SQUIRRELFISH	1253.00	2161.00	1.72
BIGEYE SQUIRRELFISH	26.00	46.00	1.77
PARROTFISH	1837.00	3214.00	1.75
TERAPON PERCH	76.00	133.00	1.75
WRASSE	15.00	25.00	1.67
GOATFISH	74.00	130.00	1.76
INSHORE GROUPERS	37.00	65.00	1.76
TRIGGERFISH	25.00	45.00	1.80
BUTTERFLYFISH	60.00	105.00	1.75
DOLPHIN (MAHIMAHI)	1442.00	2216.00	1.54
BLUE MARLIN	1083.00	867.00	0.80
SAILFISH	74.00	67.00	0.91
RAINBOW RUNNER	655.00	878.00	1.34
WAHOO	632.00	921.00	1.46
SKIPJACK TUNA	54841.00	33117.00	0.60
DOGTOOTH TUNA	917.00	1247.00	1.36
ALBACORE	10904.00	8178.00	0.75
YELLOWFIN TUNA	18956.00	16898.00	0.89
KAWAKAWA	368.00	368.00	1.00
INVERTEBRATES	16.00	28.00	1.75
SPINY LOBSTER	949.00	2794.00	2.94
** TOTAL **	245937.00	389077.00	

Table II.3.1

AMERICAN SAMOA 1984 ANNUAL ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	133.00	234.00	1.76
BIGEYE SCAD	1334.00	2053.00	1.54
JACKS	1909.00	3171.00	1.66
BLACK JACK	15.00	24.00	1.60
TREVALLY	14.00	24.00	1.71
BARRACUDAS	855.00	1346.00	1.57
SHARKS	723.00	1264.00	1.75
BOTTOM FISH	61063.00	97425.00	1.60
GROUPERS	1510.00	2621.00	1.74
BLACKTIP GROUPER	10.00	17.00	1.70
GIANT GROUPER	243.00	302.00	1.24
LUNARTAIL GROUPER	564.00	986.00	1.75
SNAPPERS	128.00	200.00	1.56
BLUE LINED SNAPPER	3713.00	5991.00	1.61
RUFOUS SNAPPER	122.00	190.00	1.56
BLACKTAIL SNAPPER	546.00	797.00	1.46
ONESPOT SNAPPER	381.00	591.00	1.55
TWINSPOT/RED SNAPPER	585.00	1020.00	1.74
HUMPBACK SNAPPER	1698.00	2952.00	1.74
GRAY JOBFISH	1521.00	2494.00	1.64
DEEPWATER BOTTOMFISH	163.00	369.00	2.26
YELLOW OPAKAPAKA	1193.00	2838.00	2.38
HAWAIIAN OPAKAPAKA	1043.00	3552.00	3.41
OPAKAPAKA	40.00	69.00	1.73
GINDAI (FLOWER SNAP)	1729.00	2923.00	1.69
YELLOWTAIL SNAPPER	3.00	2.00	0.67
LEHI (SILVERJAW)	1227.00	3232.00	2.63
ONAGA (RED SNAPPER)	4282.00	17026.00	3.98
EHU (RED SNAPPER)	4291.00	9764.00	2.28
BLACK SNAPPER	40.00	69.00	1.73
STONE'S SNAPPER	834.00	1454.00	1.74
KUSAKAR'S SNAPPER	108.00	189.00	1.75
BIGEYE EMPEROR	7.00	12.00	1.71
EMPERORS (MISC)	3740.00	6460.00	1.73
LONGNOSE EMPEROR	111.00	139.00	1.25
SNAKE MACKEREL	8.00	14.00	1.75
REEF FISH	2560.00	4184.00	1.63
LINED SURGEON	98.00	172.00	1.76
YELLOW EYED SURGEON	71.00	126.00	1.77
UNICORNFISH (MISC)	50.00	88.00	1.76
SQUIRRELFISH	441.00	733.00	1.66
SABER SQUIRRELFISH	41.00	72.00	1.76
BIGEYE SQUIRRELFISH	27.00	34.00	1.26
PARROTFISH	103.00	179.00	1.74
GOATFISH	5.00	9.00	1.80
TROLL FISH	23498.00	18864.00	0.80

Table II.3.1 (Cont)

AMERICAN SAMOA 1984 ANNUAL ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
TRIGGERFISH	11.00	19.00	1.73
DOLPHIN (MAHIMAHI)	1807.00	2231.00	1.23
BLUE MARLIN	5675.00	4105.00	0.72
SAILFISH	989.00	890.00	0.90
RAINBOW RUNNER	2305.00	2442.00	1.06
WAHOO	1637.00	4329.00	2.64
SKIPJACK TUNA	114926.00	55278.00	0.48
DOGTOOTH TUNA	2627.00	3119.00	1.19
ALBACORE	20390.00	15292.00	0.75
YELLOWFIN TUNA	58609.00	42645.00	0.73
BIGEYE TUNA	769.00	361.00	0.47
KAWAKAWA	1406.00	1405.00	1.00
SPINY LOBSTER	802.00	2007.00	2.50
OCTOPUS	13.00	26.00	2.00
** TOTAL **	334746.00	330424.00	

Table II.4.1

AMERICAN SAMOA 1985 ANNUAL ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	370.00	498.95	1.35
BIGEYE SCAD	413.00	546.38	1.32
JACKS	467.00	671.91	1.44
BLACK JACK	80.00	166.73	2.08
BIGEYE TREVALLY	95.00	118.75	1.25
BARRACUDAS	725.00	993.27	1.37
SHARKS	1026.00	1232.88	1.20
RAYS	134.00	67.00	0.50
BOTTOM FISH	85230.00	109570.77	1.29
GROUPERS	173.00	295.50	1.71
TOMATO GROUPER	196.00	245.00	1.25
BLACKTIP GROUPER	13.00	16.25	1.25
LUNARTAIL GROUPER	397.00	578.21	1.46
SNAPPERS	43.00	65.26	1.52
BLUE LINED SNAPPER	553.00	769.31	1.39
BLACKTAIL SNAPPER	51.00	63.74	1.25
ONESPOT SNAPPER	57.00	88.54	1.55
TWINSPOT/RED SNAPPER	7.00	12.24	1.75
HUMPBACK SNAPPER	269.00	429.61	1.60
GRAY JOBFISH	534.00	838.29	1.57
DEEPWATER BOTTOMFISH	649.00	957.05	1.47
YELLOW OPAKAPAKA	522.00	889.83	1.70
HAWAIIAN OPAKAPAKA	456.00	1656.54	3.63
OPAKAPAKA	168.00	209.75	1.25
BLUE LINED GINDAI	125.00	187.50	1.50
GINDAI (FLOWER SNAP)	1211.50	1853.88	1.53
YELLOWTAIL SNAPPER	5.00	9.00	1.80
LEHI (SILVERJAW)	396.00	1554.47	3.93
ONAGA (RED SNAPPER)	2139.50	7331.14	3.43
EHU (RED SNAPPER)	4382.00	6719.41	1.53
BLACK SNAPPER	27.00	33.75	1.25
STONE'S SNAPPER	143.00	200.00	1.40
KUSAKAR'S SNAPPER	18.00	22.50	1.25
EMPERORS (MISC)	730.00	1126.35	1.54
LONGNOSE EMPEROR	80.00	100.00	1.25
REEF FISH	24028.00	29401.79	1.22
SQUIRRELFISH	76.00	116.25	1.53
SABER SQUIRRELFISH	4.00	5.00	1.25
GOATFISH	34.00	49.75	1.46
TRIGGERFISH	3.00	3.75	1.25

Table II.4.1 (Cont.)

AMERICAN SAMOA 1985 ANNUAL ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
TROLL FISH	12519.00	8438.43	0.67
DOLPHIN (MAHIMAHI)	7394.00	15482.60	2.09
SWORDFISH	163.00	163.00	1.00
BLUE MARLIN	2790.00	2790.00	1.00
SAILFISH	2744.00	2744.00	1.00
RAINBOW RUNNER	558.00	558.00	1.00
WAHOO	2357.00	2834.38	1.20
SKIPJACK TUNA	35236.00	30656.16	0.87
DOGTOOTH TUNA	974.00	1013.20	1.04
ALBACORE	24831.00	24831.00	1.00
YELLOWFIN TUNA	35707.00	35428.52	0.99
BIGEYE TUNA	3528.00	3528.00	1.00
KAWAKAWA	1125.00	1125.00	1.00
SPINY LOBSTER	2273.00	3396.43	1.49
GIANT CLAM	1038.00	2179.60	2.10
** TOTAL **	259267.00	304864.62	

Table II.4.2

AMERICAN SAMOA JANUARY 1985 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
JACKS	44.00	55.00	1.25
BOTTOM FISH	2862.00	4583.65	1.60
GINDAI (FLOWER SNAP)	39.00	48.75	1.25
REEF FISH	210.00	262.50	1.25
TROLL FISH	420.00	294.00	0.70
RAINBOW RUNNER	11.00	11.00	1.00
SKIPJACK TUNA	4494.00	3410.00	0.76
DOGTOOTH TUNA	136.00	152.00	1.12
YELLOWFIN TUNA	2203.00	2195.10	1.00
KAWAKAWA	16.00	16.00	1.00
SPINY LOBSTER	25.00	37.50	1.50
** SUBTOTAL **	10460.00	11065.50	

Table II.4.3

AMERICAN SAMOA FEBRUARY 1985 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
BARRACUDAS	22.00	38.28	1.74
SHARKS	47.00	58.75	1.25
BOTTOM FISH	4037.00	6070.25	1.50
GINDAI (FLOWER SNAP)	92.50	133.47	1.44
ONAGA (RED SNAPPER)	53.50	185.95	3.48
EHU (RED SNAPPER)	140.00	245.00	1.75
EMPERORS (MISC)	40.00	50.00	1.25
TROLL FISH	707.00	530.25	0.75
SAILFISH	220.00	220.00	1.00
RAINBOW RUNNER	76.00	76.00	1.00
WAHOO	38.00	21.66	0.57
SKIPJACK TUNA	2247.00	1890.80	0.84
DOGTOOTH TUNA	76.00	91.76	1.21
YELLOWFIN TUNA	3369.00	3242.86	0.96
** SUBTOTAL **	11165.00	12855.03	

Table II.4.4

AMERICAN SAMOA MARCH 1985 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
BIGEYE SCAD	265.00	351.02	1.32
BLACK JACK	55.00	135.48	2.46
BARRACUDAS	87.00	151.38	1.74
SHARKS	173.00	183.38	1.06
BOTTOM FISH	3096.00	4140.25	1.34
GRAY JOBFISH	117.00	146.25	1.25
YELLOW OPAKAPAKA	8.00	51.15	6.39
HAWAIIAN OPAKAPAKA	164.00	1276.04	7.78
GINDAI (FLOWER SNAP)	19.00	85.76	4.51
YELLOWTAIL SNAPPER	5.00	9.00	1.80
LEHI (SILVERJAW)	247.00	1162.96	4.71
ONAGA (RED SNAPPER)	361.00	2646.45	7.33
EHU (RED SNAPPER)	11.00	56.17	5.11
REEF FISH	173.00	216.25	1.25
TROLL FISH	4540.00	2724.00	0.60
DOLPHIN (MAHIMAHI)	144.00	144.00	1.00
BLUE MARLIN	240.00	240.00	1.00
SAILFISH	561.00	561.00	1.00
WAHOO	51.00	29.07	0.57
SKIPJACK TUNA	5408.00	5113.69	0.95
ALBACORE	243.00	243.00	1.00
YELLOWFIN TUNA	3296.00	3296.00	1.00
BIGEYE TUNA	427.00	427.00	1.00
** SUBTOTAL **	19691.00	23389.30	

Table II.4.5

AMERICAN SAMOA APRIL 1985 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
JACKS	14.00	24.36	1.74
BARRACUDAS	48.00	48.00	1.00
SHARKS	314.00	392.50	1.25
BOTTOM FISH	8446.00	10570.06	1.25
GROUPERS	27.00	46.98	1.74
BLUE LINED SNAPPER	44.00	61.86	1.41
ONESPOT SNAPPER	7.00	12.18	1.74
HUMPBACK SNAPPER	66.00	82.50	1.25
GRAY JOBFISH	23.00	28.75	1.25
YELLOW OPAKAPAKA	55.00	124.44	2.26
HAWAIIAN OPAKAPAKA	3.00	16.04	5.35
OPAKAPAKA	27.00	33.75	1.25
GINDAI (FLOWER SNAP)	54.00	107.86	2.00
LEHI (SILVERJAW)	57.00	203.28	3.57
ONAGA (RED SNAPPER)	222.00	1038.15	4.68
EHU (RED SNAPPER)	436.00	1191.71	2.73
SQUIRRELFISH	14.00	24.50	1.75
TROLL FISH	1419.00	993.30	0.70
DOLPHIN (MAHIMAHI)	314.00	314.00	1.00
BLUE MARLIN	676.00	676.00	1.00
WAHOO	155.00	382.96	2.47
SKIPJACK TUNA	2273.00	2132.34	0.94
DOGTOOTH TUNA	20.00	23.20	1.16
YELLOWFIN TUNA	3901.00	3547.53	0.91
KAWAKAWA	749.00	749.00	1.00
** SUBTOTAL **	19364.00	22825.25	

Table II.4.6

AMERICAN SAMOA MAY 1985 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
BARRACUDAS	21.00	21.00	1.00
BOTTOM FISH	4176.00	5199.18	1.25
ONAGA (RED SNAPPER)	67.00	439.07	6.55
TROLL FISH	4313.00	3065.03	0.71
DOLPHIN (MAHIMAHI)	270.00	417.36	1.55
SAILFISH	78.00	78.00	1.00
RAINBOW RUNNER	136.00	136.00	1.00
WAHOO	20.00	20.00	1.00
SKIPJACK TUNA	1387.00	1340.72	0.97
YELLOWFIN TUNA	1923.00	1818.95	0.95
KAWAKAWA	78.00	78.00	1.00
** SUBTOTAL **	12469.00	12613.31	

Table II.4.7

AMERICAN SAMOA JUNE 1985 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	130.00	162.50	1.25
JACKS	15.00	18.45	1.23
BARRACUDAS	44.00	44.00	1.00
SHARKS	425.00	531.25	1.25
BOTTOM FISH	3127.00	3797.47	1.21
GROUPERS	12.00	15.00	1.25
TOMATO GROUPER	48.00	60.00	1.25
LUNARTAIL GROUPER	48.00	60.00	1.25
GRAY JOBFISH	23.00	17.25	0.75
EHU (RED SNAPPER)	26.00	32.50	1.25
EMPERORS (MISC)	51.00	54.75	1.07
TROLL FISH	32.00	24.00	0.75
DOLPHIN (MAHIMAHI)	918.00	1411.32	1.54
BLUE MARLIN	212.00	212.00	1.00
SAILFISH	243.00	243.00	1.00
RAINBOW RUNNER	33.00	33.00	1.00
WAHOO	185.00	114.91	0.62
SKIPJACK TUNA	1511.00	1446.00	0.96
ALBACORE	4693.00	4693.00	1.00
YELLOWFIN TUNA	6487.00	6325.99	0.98
BIGEYE TUNA	635.00	635.00	1.00
KAWAKAWA	40.00	40.00	1.00
** SUBTOTAL **	18938.00	19971.39	

Table II.4.8

AMERICAN SAMOA JULY 1985 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	23.00	28.76	1.25
BLACK JACK	25.00	31.25	1.25
BARRACUDAS	56.00	97.63	1.74
BOTTOM FISH	5678.00	7386.62	1.30
GROUPERS	63.00	109.63	1.74
BLUE LINED SNAPPER	37.00	64.75	1.75
ONESPOT SNAPPER	6.00	10.44	1.74
TWINSPOT/RED SNAPPER	7.00	12.24	1.75
HUMPBACK SNAPPER	69.00	120.76	1.75
GRAY JOBFISH	6.00	10.50	1.75
YELLOW OPAKAPAKA	4.00	10.99	2.75
GINDAI (FLOWER SNAP)	11.00	19.80	1.80
LEHI (SILVERJAW)	67.00	142.23	2.12
ONAGA (RED SNAPPER)	152.00	442.64	2.91
EHU (RED SNAPPER)	21.00	37.94	1.81
STONE'S SNAPPER	11.00	16.50	1.50
EMPERORS (MISC)	38.00	66.50	1.75
REEF FISH	467.00	569.74	1.22
SQUIRRELFISH	16.00	28.00	1.75
TROLL FISH	687.00	509.73	0.74
DOLPHIN (MAHIMAHI)	1934.00	5001.79	2.59
BLUE MARLIN	17.00	17.00	1.00
SAILFISH	256.00	256.00	1.00
RAINBOW RUNNER	7.00	7.00	1.00
WAHOO	545.00	373.09	0.68
SKIPJACK TUNA	1777.00	1625.68	0.91
DOGTOOTH TUNA	92.00	103.36	1.12
ALBACORE	7173.00	7173.00	1.00
YELLOWFIN TUNA	4518.00	4409.89	0.98
BIGEYE TUNA	1326.00	1326.00	1.00
KAWAKAWA	54.00	54.00	1.00
SPINY LOBSTER	128.00	190.72	1.49
GIANT CLAM	806.00	1692.60	2.10
** SUBTOTAL **	26077.00	31946.78	

Table II.4.9

AMERICAN SAMOA AUGUST 1985 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
BIGEYE SCAD	89.00	117.48	1.32
JACKS	82.00	124.64	1.52
BARRACUDAS	4.00	7.00	1.75
BOTTOM FISH	13129.00	16958.00	1.29
GROUPERS	37.00	64.40	1.74
LUNARTAIL GROUPER	11.00	19.24	1.75
BLUE LINED SNAPPER	111.00	164.06	1.48
BLACKTAIL SNAPPER	11.00	13.74	1.25
ONESPOT SNAPPER	14.00	24.42	1.74
HUMPBACK SNAPPER	32.00	55.86	1.75
GRAY JOBFISH	11.00	19.25	1.75
DEEPWATER BOTTOMFISH	54.00	81.54	1.51
GINDAI (FLOWER SNAP)	125.00	192.03	1.54
ONAGA (RED SNAPPER)	49.00	303.38	6.19
EHU (RED SNAPPER)	271.00	417.70	1.54
EMPERORS (MISC)	102.00	159.53	1.56
REEF FISH	1276.00	1556.72	1.22
TROLL FISH	401.00	298.12	0.74
DOLPHIN (MAHIMAHI)	1137.00	2016.75	1.77
SWORDFISH	163.00	163.00	1.00
BLUE MARLIN	464.00	464.00	1.00
SAILFISH	1080.00	1080.00	1.00
WAHOO	75.00	107.97	1.44
SKIPJACK TUNA	690.00	531.93	0.77
DOGTOOTH TUNA	126.00	131.38	1.04
ALBACORE	10636.00	10636.00	1.00
YELLOWFIN TUNA	1699.00	1648.03	0.97
BIGEYE TUNA	1058.00	1058.00	1.00
KAWAKAWA	117.00	117.00	1.00
SPINY LOBSTER	53.00	78.97	1.49
** SUBTOTAL **	33107.00	38610.14	

Table II.4.10

AMERICAN SAMOA SEPTEMBER 1985 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
BIGEYE SCAD	59.00	77.88	1.32
JACKS	90.00	140.05	1.56
BARRACUDAS	231.00	319.98	1.39
BOTTOM FISH	5132.00	6545.79	1.28
GROUPERS	34.00	59.49	1.75
LUNARTAIL GROUPER	7.00	12.24	1.75
SNAPPERS	43.00	65.26	1.52
BLUE LINED SNAPPER	104.00	144.39	1.39
BLACKTAIL SNAPPER	40.00	50.00	1.25
ONESPOT SNAPPER	26.00	35.50	1.37
HUMPBACK SNAPPER	76.00	132.49	1.74
GRAY JOBFISH	43.00	75.25	1.75
DEEPWATER BOTTOMFISH	27.00	47.26	1.75
GINDAI (FLOWER SNAP)	358.00	596.11	1.67
EHU (RED SNAPPER)	248.00	431.55	1.74
EMPERORS (MISC)	141.00	246.07	1.75
REEF FISH	1739.00	2121.58	1.22
SQUIRRELFISH	10.00	17.50	1.75
GOATFISH	1.00	1.25	1.25
DOLPHIN (MAHIMAHI)	417.00	825.38	1.98
BLUE MARLIN	224.00	224.00	1.00
SAILFISH	306.00	306.00	1.00
WAHOO	106.00	268.72	2.54
SKIPJACK TUNA	30.00	30.00	1.00
DOGTOOTH TUNA	74.00	117.50	1.59
ALBACORE	2086.00	2086.00	1.00
YELLOWFIN TUNA	249.00	249.00	1.00
BIGEYE TUNA	82.00	82.00	1.00
SPINY LOBSTER	327.00	487.24	1.49
** SUBTOTAL **	12310.00	15795.48	

Table II.4.11

AMERICAN SAMOA OCTOBER 1985 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	99.00	148.50	1.50
JACKS	61.00	91.50	1.50
BIGEYE TREVALLY	95.00	118.75	1.25
BARRACUDAS	179.00	221.00	1.23
BOTTOM FISH	17082.00	21182.50	1.24
TOMATO GROUPER	32.00	40.00	1.25
LUNARTAIL GROUPER	86.00	129.00	1.50
BLUE LINED SNAPPER	51.00	63.75	1.25
OPAKAPAKA	82.00	102.50	1.25
ONAGA (RED SNAPPER)	98.00	147.00	1.50
EHU (RED SNAPPER)	424.00	532.75	1.26
EMPERORS (MISC)	44.00	55.00	1.25
REEF FISH	6463.00	8078.00	1.25
GOATFISH	29.00	43.50	1.50
DOLPHIN (MAHIMAHI)	1997.00	5089.00	2.55
WAHOO	194.00	115.00	0.59
SKIPJACK TUNA	4880.00	4823.00	0.99
DOGTOOTH TUNA	91.00	94.74	1.04
YELLOWFIN TUNA	2881.00	2943.00	1.02
KAWAKAWA	39.00	39.00	1.00
SPINY LOBSTER	266.00	396.00	1.49
** SUBTOTAL **	35173.00	44453.49	

Table II.4.12

AMERICAN SAMOA NOVEMBER 1985 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	118.00	159.19	1.35
JACKS	161.00	217.91	1.35
BARRACUDAS	33.00	45.00	1.36
SHARKS	67.00	67.00	1.00
RAYS	134.00	67.00	0.50
BOTTOM FISH	11184.00	13980.00	1.25
TOMATO GROUPER	116.00	145.00	1.25
BLACKTIP GROUPER	13.00	16.25	1.25
LUNARTAIL GROUPER	186.00	255.73	1.37
BLUE LINED SNAPPER	206.00	270.50	1.31
ONESPOT SNAPPER	4.00	6.00	1.50
HUMPBACK SNAPPER	9.00	9.00	1.00
GRAY JOBFISH	119.00	256.54	2.16
DEEPWATER BOTTOMFISH	568.00	828.25	1.46
YELLOW OPAKAPAKA	274.00	472.50	1.72
HAWAIIAN OPAKAPAKA	289.00	364.46	1.26
OPAKAPAKA	22.00	27.50	1.25
GINDAI (FLOWER SNAP)	433.00	531.10	1.23
LEHI (SILVERJAW)	25.00	46.00	1.84
ONAGA (RED SNAPPER)	924.00	1809.50	1.96
EHU (RED SNAPPER)	1149.00	1403.50	1.22
BLACK SNAPPER	27.00	33.75	1.25
STONE'S SNAPPER	58.00	72.50	1.25
KUSAKAR'S SNAPPER	18.00	22.50	1.25
EMPERORS (MISC)	163.00	245.50	1.51
LONGNOSE EMPEROR	80.00	100.00	1.25
REEF FISH	2125.00	2592.00	1.22
SQUIRRELFISH	36.00	46.25	1.28
SABER SQUIRRELFISH	4.00	5.00	1.25
GOATFISH	4.00	5.00	1.25
TRIGGERFISH	3.00	3.75	1.25
DOLPHIN (MAHIMAHI)	174.00	174.00	1.00
BLUE MARLIN	957.00	957.00	1.00
RAINBOW RUNNER	32.00	32.00	1.00
WAHOO	453.00	1086.00	2.40
SKIPJACK TUNA	3732.00	3327.00	0.89
DOGTOOTH TUNA	277.00	204.26	0.74
YELLOWFIN TUNA	1371.00	1425.17	1.04
KAWAKAWA	32.00	32.00	1.00
SPINY LOBSTER	371.00	552.00	1.49
** SUBTOTAL **	25951.00	31893.61	

Table II.4.13

AMERICAN SAMOA DECEMBER 1985 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
BOTTOM FISH	7281.00	9157.00	1.26
LUNARTAIL GROUPER	59.00	102.00	1.73
HUMPBACK SNAPPER	17.00	29.00	1.71
GRAY JOBFISH	192.00	284.50	1.48
YELLOW OPAKAPAKA	181.00	230.75	1.27
OPAKAPAKA	37.00	46.00	1.24
BLUE LINED GINDAI	125.00	187.50	1.50
GINDAI (FLOWER SNAP)	80.00	139.00	1.74
ONAGA (RED SNAPPER)	213.00	319.00	1.50
EHU (RED SNAPPER)	1656.00	2370.59	1.43
STONE'S SNAPPER	74.00	111.00	1.50
EMPERORS (MISC)	151.00	249.00	1.65
REEF FISH	11575.00	14005.00	1.21
DOLPHIN (MAHIMAHI)	89.00	89.00	1.00
RAINBOW RUNNER	263.00	263.00	1.00
WAHOO	535.00	315.00	0.59
SKIPJACK TUNA	6807.00	4985.00	0.73
DOGTOOTH TUNA	82.00	95.00	1.16
YELLOWFIN TUNA	3810.00	4327.00	1.14
SPINY LOBSTER	1103.00	1654.00	1.50
GIANT CLAM	232.00	487.00	2.10
** SUBTOTAL **	34562.00	39445.34	
** 1985 TOTAL **	258267.00	304864.62	

Figure II.1.1

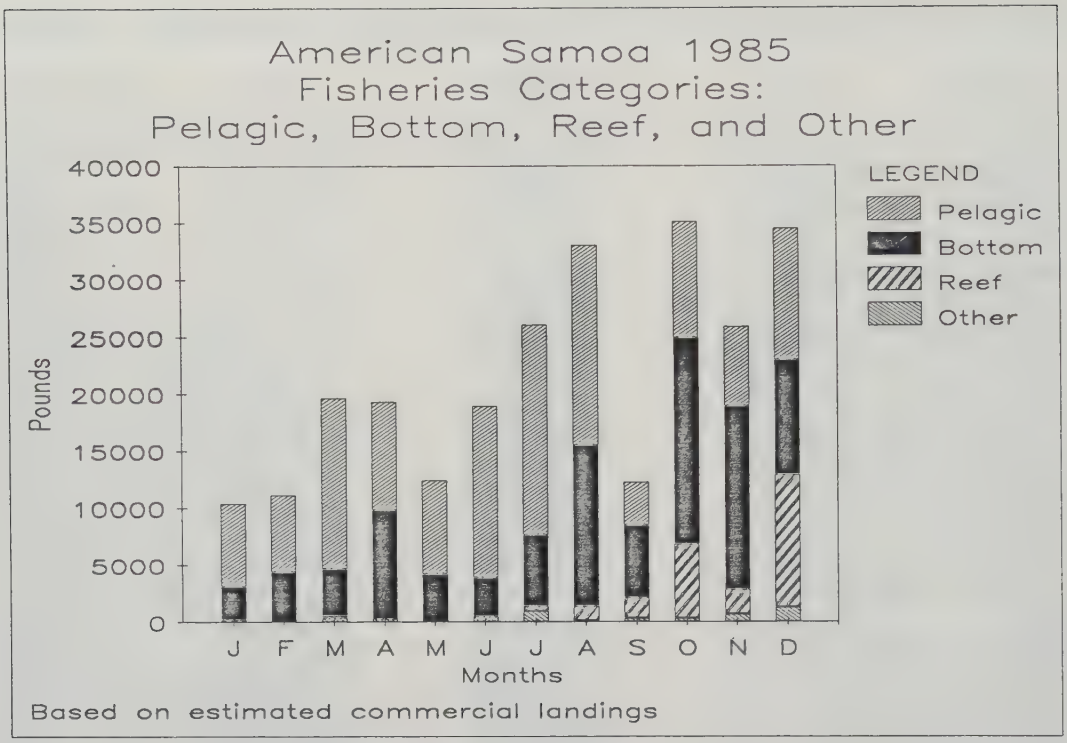


Figure II.1.2

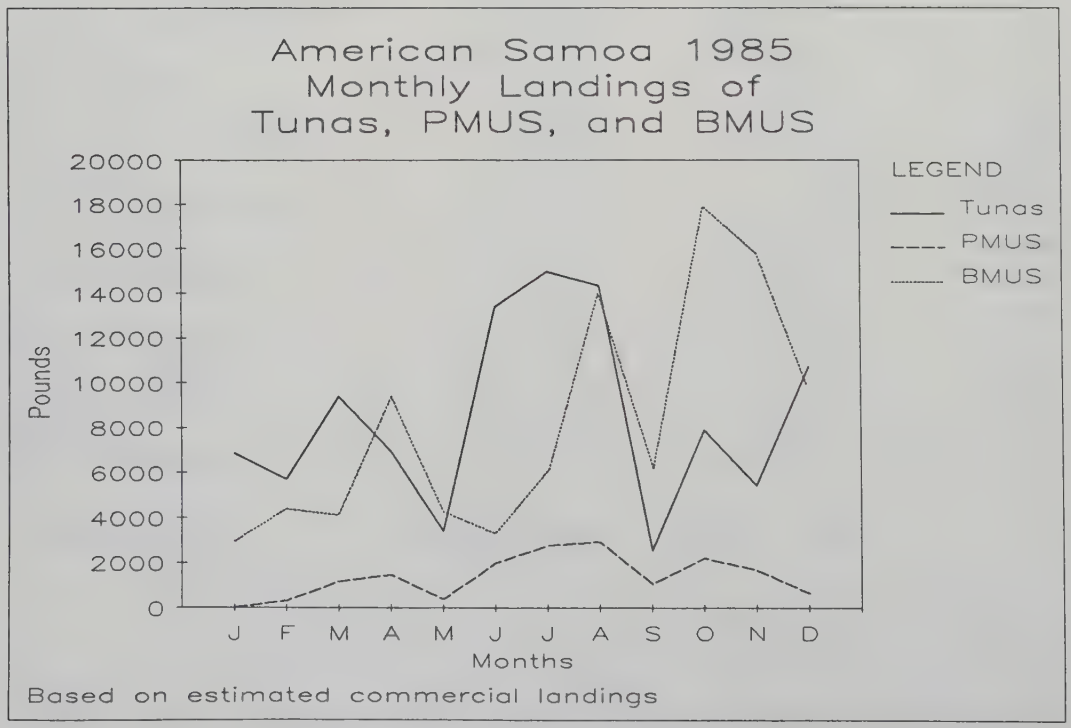


Figure II.1.3

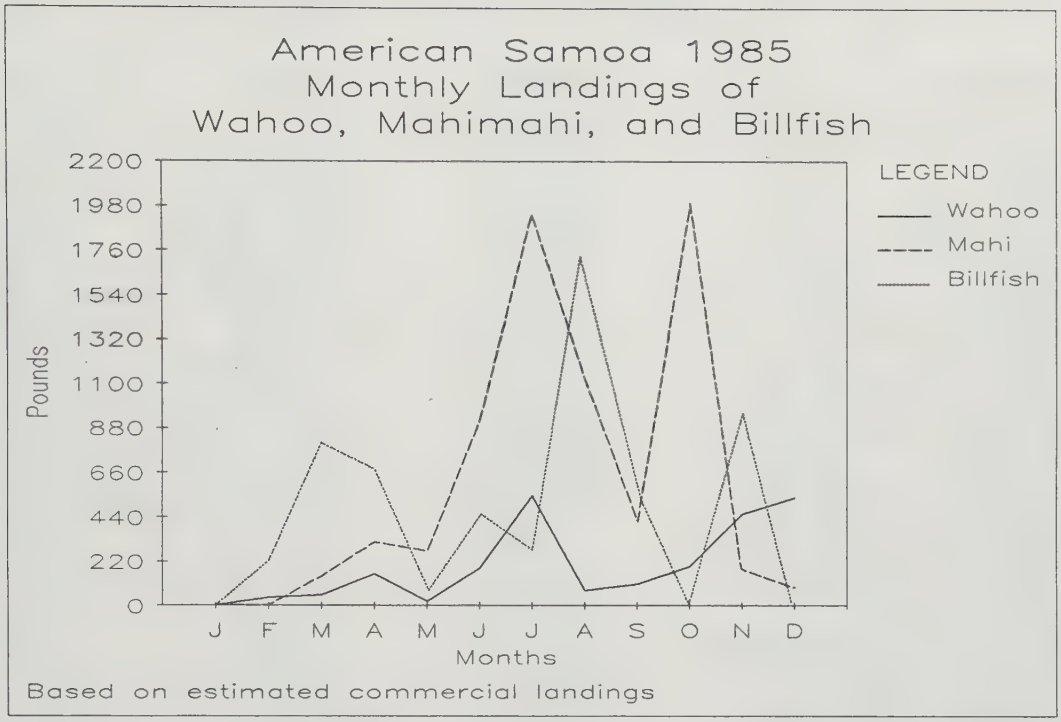


Figure II.1.4

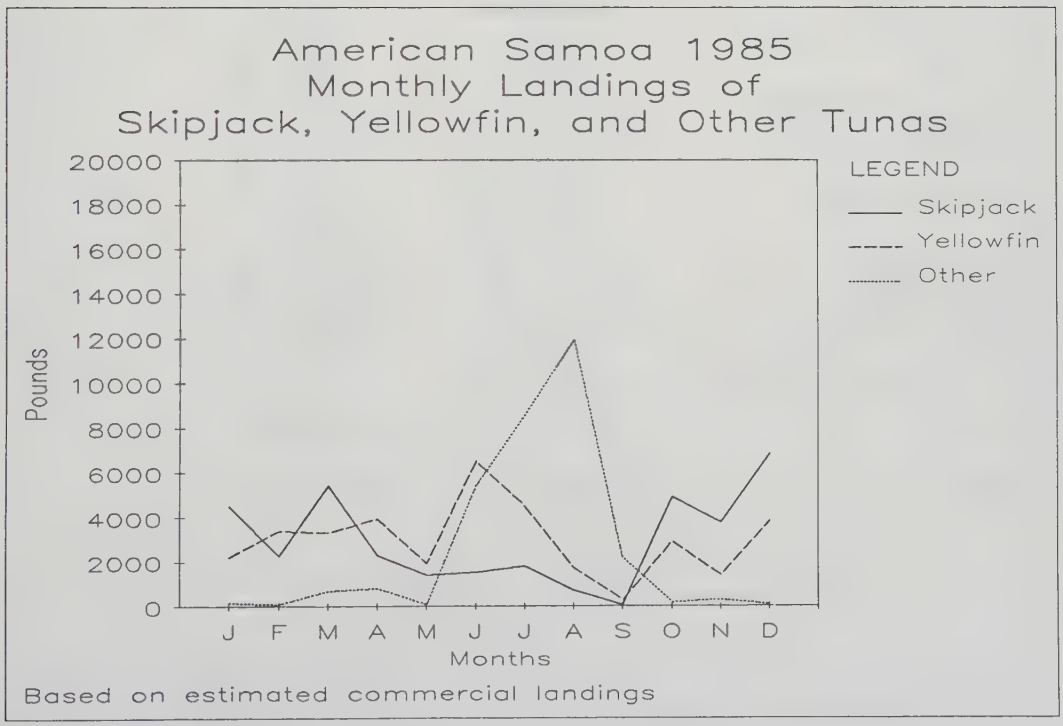


Table II.5.1

AMERICAN SAMOA 1986 ANNUAL ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	269.00	378.77	1.41
JACKS	615.00	803.36	1.31
BLACK JACK	388.00	582.00	1.50
BARRACUDAS	391.75	397.09	1.01
SMALL BARRACUDA	55.00	61.00	1.11
SHARKS	738.00	763.22	1.03
BOTTOM FISH	84384.00	107122.50	1.27
GROUPERS	128.00	192.00	1.50
TOMATO GROUPER	157.00	235.49	1.50
LUNARTAIL GROUPER	232.00	335.76	1.45
SNAPPERS	126.00	252.00	2.00
BLUE LINED SNAPPER	340.00	497.70	1.46
ONESPOT SNAPPER	98.25	147.19	1.50
TWINSPOT/RED SNAPPER	47.00	70.50	1.50
HUMPBACK SNAPPER	167.00	227.25	1.36
GRAY JOBFISH	315.00	882.50	2.80
DEEPWATER BOTTOMFISH	1157.00	1773.25	1.53
YELLOW OPAKAPAKA	490.00	847.00	1.73
HAWAIIAN OPAKAPAKA	342.00	1402.00	4.10
GINDAI (FLOWER SNAP)	568.00	1169.00	2.06
LEHI (SILVERJAW)	666.00	2152.00	3.23
ONAGA (RED SNAPPER)	3921.00	17863.00	4.56
EHU (RED SNAPPER)	4177.00	10084.17	2.41
EMPERORS (MISC)	118.50	177.75	1.50
REEF FISH	30761.00	38506.00	1.25
SQUIRRELFISH	166.25	264.88	1.59
SABER SQUIRRELFISH	187.00	280.50	1.50
TROLL FISH	266.00	266.00	1.00
DOLPHIN (MAHIMAHI)	10388.00	15785.00	1.52
BLUE MARLIN	4171.00	4559.00	1.09
SAILFISH	107.00	107.00	1.00
RAINBOW RUNNER	190.75	201.37	1.06
WAHOO	2311.00	3249.04	1.41
SKIPJACK TUNA	120194.50	88630.50	0.74
DOGTOOTH TUNA	2278.00	2682.82	1.18
YELLOWFIN TUNA	48282.95	49226.95	1.02
KAWAKAWA	28.75	28.75	1.00
SPINY LOBSTER	1902.00	2851.00	1.50
GIANT CLAM	1172.00	2460.00	2.10
** TOTAL **	322296.70	357515.31	

Table II.5.2

AMERICAN SAMOA JANUARY 1986 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
BOTTOM FISH	8969.00	11560.25	1.29
GRAY JOBFISH	102.00	464.00	4.55
HAWAIIAN OPAKAPAKA	281.00	1062.00	3.78
GINDAI (FLOWER SNAP)	20.00	61.00	3.05
ONAGA (RED SNAPPER)	51.00	222.00	4.35
EHU (RED SNAPPER)	375.00	742.00	1.98
REEF FISH	3567.00	4458.00	1.25
DOLPHIN (MAHIMAHI)	114.00	102.00	0.89
BLUE MARLIN	582.00	291.00	0.50
SKIPJACK TUNA	6926.00	5905.00	0.85
DOGTOOTH TUNA	272.00	250.00	0.92
YELLOWFIN TUNA	3298.00	2836.00	0.86
SPINY LOBSTER	389.00	583.00	1.50
** SUBTOTAL **	24946.00	28536.25	

Table II.5.3

AMERICAN SAMOA FEBRUARY 1986 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
BARRACUDAS	18.00	14.00	0.78
BOTTOM FISH	9928.00	12316.25	1.24
GROUPERS	38.00	57.00	1.50
TOMATO GROUPER	54.00	80.99	1.50
BLUE LINED SNAPPER	34.00	51.00	1.50
ONESPOT SNAPPER	16.00	23.99	1.50
HUMPBACK SNAPPER	66.00	99.00	1.50
GRAY JOBFISH	69.00	165.00	2.39
YELLOW OPAKAPAKA	94.00	238.00	2.53
GINDAI (FLOWER SNAP)	7.00	18.00	2.57
ONAGA (RED SNAPPER)	155.00	483.00	3.12
EHU (RED SNAPPER)	71.00	180.00	2.54
REEF FISH	5485.00	6856.00	1.25
SABER SQUIRRELFISH	53.00	79.50	1.50
TROLL FISH	266.00	266.00	1.00
DOLPHIN (MAHIMAHI)	511.00	551.00	1.08
BLUE MARLIN	1374.00	1717.00	1.25
SAILFISH	107.00	107.00	1.00
RAINBOW RUNNER	53.00	57.09	1.08
WAHOO	224.00	224.00	1.00
SKIPJACK TUNA	8515.00	6645.00	0.78
DOGTOOTH TUNA	213.00	266.00	1.25
YELLOWFIN TUNA	4015.00	3495.00	0.87
SPINY LOBSTER	621.00	931.00	1.50
** SUBTOTAL **	31987.00	34920.82	

Table II.5.4

AMERICAN SAMOA MARCH 1986 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
JACKS	60.00	90.00	1.50
BARRACUDAS	21.75	32.62	1.50
SMALL BARRACUDA	25.00	25.00	1.00
SHARKS	37.00	55.50	1.50
BOTTOM FISH	15593.00	19490.50	1.25
LUNARTAIL GROUPER	72.00	108.00	1.50
BLUE LINED SNAPPER	58.00	86.70	1.49
ONESPOT SNAPPER	29.25	43.70	1.49
HUMPBACK SNAPPER	93.00	116.25	1.25
GRAY JOBFISH	39.00	118.00	3.03
DEEPWATER BOTTOMFISH	587.00	829.50	1.41
YELLOW OPAKAPAKA	317.00	336.00	1.06
HAWAIIAN OPAKAPAKA	54.00	307.00	5.69
GINDAI (FLOWER SNAP)	52.00	200.00	3.85
LEHI (SILVERJAW)	149.00	598.00	4.01
ONAGA (RED SNAPPER)	1131.00	6446.00	5.70
EHU (RED SNAPPER)	755.00	2733.00	3.62
EMPERORS (MISC)	76.50	114.75	1.50
REEF FISH	8447.00	10558.00	1.25
SQUIRRELFISH	52.25	78.38	1.50
SABER SQUIRRELFISH	27.00	40.50	1.50
DOLPHIN (MAHIMAHI)	21.00	21.00	1.00
RAINBOW RUNNER	16.75	21.12	1.26
WAHOO	116.00	116.00	1.00
SKIPJACK TUNA	8746.50	7779.50	0.89
DOGTOOTH TUNA	623.00	770.00	1.24
YELLOWFIN TUNA	2093.75	1988.75	0.95
KAWAKAWA	16.75	16.75	1.00
SPINY LOBSTER	525.00	787.00	1.50
** SUBTOTAL **	39834.50	53907.52	

Table II.5.5

AMERICAN SAMOA APRIL 1986 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
BOTTOM FISH	10580.00	13538.75	1.28
YELLOW OPAKAPAKA	23.00	106.00	4.61
GINDAI (FLOWER SNAP)	30.00	146.00	4.87
LEHI (SILVERJAW)	262.00	903.00	3.45
ONAGA (RED SNAPPER)	777.00	3752.00	4.83
EHU (RED SNAPPER)	487.00	1767.00	3.63
REEF FISH	7435.00	9293.00	1.25
SQUIRRELFISH	35.00	68.00	1.94
DOLPHIN (MAHIMAHI)	337.00	468.00	1.39
SKIPJACK TUNA	8386.00	5038.00	0.60
DOGTOOTH TUNA	217.00	184.00	0.85
YELLOWFIN TUNA	8165.00	7600.00	0.93
SPINY LOBSTER	300.00	450.00	1.50
** SUBTOTAL **	37034.00	43313.75	

Table II.5.6

AMERICAN SAMOA MAY 1986 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	77.00	115.50	1.50
JACKS	60.00	75.00	1.25
BOTTOM FISH	5426.00	6782.00	1.25
GROUPERS	90.00	135.00	1.50
TOMATO GROUPER	103.00	154.50	1.50
LUNARTAIL GROUPER	83.00	124.50	1.50
BLUE LINED SNAPPER	200.00	300.00	1.50
ONESPOT SNAPPER	26.00	39.00	1.50
YELLOW OPAKAPAKA	7.00	23.00	3.29
LEHI (SILVERJAW)	153.00	359.00	2.35
ONAGA (RED SNAPPER)	552.00	2036.00	3.69
EHU (RED SNAPPER)	106.00	217.00	2.05
EMPERORS (MISC)	42.00	63.00	1.50
REEF FISH	1549.00	1936.00	1.25
SQUIRRELFISH	79.00	118.50	1.50
SABER SQUIRRELFISH	107.00	160.50	1.50
DOLPHIN (MAHIMAHI)	146.00	146.00	1.00
RAINBOW RUNNER	20.00	20.00	1.00
WAHOO	278.00	329.50	1.19
SKIPJACK TUNA	6109.00	4991.00	0.82
DOGTOOTH TUNA	59.00	88.50	1.50
YELLOWFIN TUNA	4311.10	4311.10	1.00
KAWAKAWA	12.00	12.00	1.00
SPINY LOBSTER	67.00	100.00	1.49
** SUBTOTAL **	19662.10	22636.60	

Table II.5.7

AMERICAN SAMOA JUNE 1986 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	31.00	46.50	1.50
SMALL BARRACUDA	30.00	36.00	1.20
SHARKS	28.00	28.00	1.00
BOTTOM FISH	6355.00	7943.50	1.25
SNAPPERS	126.00	252.00	2.00
TWINSPOT/RED SNAPPER	47.00	70.50	1.50
HUMPBACK SNAPPER	8.00	12.00	1.50
GRAY JOBFISH	23.00	34.50	1.50
DEEPWATER BOTTOMFISH	310.00	465.00	1.50
YELLOW OPAKAPAKA	18.00	67.00	3.72
HAWAIIAN OPAKAPAKA	7.00	33.00	4.71
GINDAI (FLOWER SNAP)	416.00	669.00	1.61
LEHI (SILVERJAW)	48.00	160.00	3.33
ONAGA (RED SNAPPER)	383.00	1715.00	4.48
EHU (RED SNAPPER)	211.00	776.00	3.68
DOLPHIN (MAHIMAHI)	139.00	208.00	1.50
BLUE MARLIN	1161.00	1404.00	1.21
WAHOO	133.00	199.00	1.50
SKIPJACK TUNA	4129.00	3999.00	0.97
DOGTOOTH TUNA	20.00	20.00	1.00
YELLOWFIN TUNA	2790.10	2806.10	1.01
** SUBTOTAL **	16413.10	20944.10	

Table II.5.8

AMERICAN SAMOA JULY 1986 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
JACKS	310.00	387.00	1.25
BLACK JACK	388.00	582.00	1.50
BOTTOM FISH	9509.00	11791.00	1.24
DEEPWATER BOTTOMFISH	205.00	410.00	2.00
YELLOW OPAKAPAKA	31.00	77.00	2.48
GINDAI (FLOWER SNAP)	43.00	75.00	1.74
LEHI (SILVERJAW)	54.00	132.00	2.44
ONAGA (RED SNAPPER)	570.00	1784.00	3.13
EHU (RED SNAPPER)	599.00	1054.00	1.76
REEF FISH	1965.00	2456.00	1.25
DOLPHIN (MAHIMAHI)	1756.00	3634.00	2.07
BLUE MARLIN	388.00	422.00	1.09
WAHOO	922.00	1401.00	1.52
SKIPJACK TUNA	2886.00	2535.00	0.88
DOGTOOTH TUNA	465.00	697.00	1.50
YELLOWFIN TUNA	5353.00	5512.00	1.03
** SUBTOTAL **	25444.00	32949.00	

Table II.5.9

AMERICAN SAMOA AUGUST 1986 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	46.00	57.50	1.25
JACKS	37.00	46.25	1.25
BOTTOM FISH	4894.00	6166.00	1.26
LUNARTAIL GROUPER	16.00	20.00	1.25
BLUE LINED SNAPPER	48.00	60.00	1.25
DEEPWATER BOTTOMFISH	55.00	68.75	1.25
ONAGA (RED SNAPPER)	302.00	1425.00	4.72
EHU (RED SNAPPER)	65.00	165.00	2.54
REEF FISH	1453.00	1874.00	1.29
DOLPHIN (MAHIMAHI)	1327.00	1521.00	1.15
RAINBOW RUNNER	9.00	9.00	1.00
WAHOO	271.00	406.00	1.50
SKIPJACK TUNA	21504.00	17396.00	0.81
YELLOWFIN TUNA	3946.00	4049.00	1.03
** SUBTOTAL **	33973.00	33263.50	

Table II.5.10

AMERICAN SAMOA SEPTEMBER 1986 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
BOTTOM FISH	4782.00	6244.75	1.31
DOLPHIN (MAHIMAHI)	4048.00	6922.00	1.71
WAHOO	72.00	187.00	2.60
SKIPJACK TUNA	7214.00	4523.00	0.63
YELLOWFIN TUNA	2322.00	2507.00	1.08
** SUBTOTAL **	18438.00	20383.75	

Table II.5.11

AMERICAN SAMOA OCTOBER 1986 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	115.00	159.27	1.38
JACKS	148.00	205.11	1.39
BARRACUDAS	125.00	180.47	1.44
SHARKS	24.00	30.72	1.28
BOTTOM FISH	3121.00	4680.50	1.50
LUNARTAIL GROUPER	61.00	83.26	1.36
ONESPOT SNAPPER	27.00	40.50	1.50
GRAY JOBFISH	37.00	55.50	1.50
EHU (RED SNAPPER)	1085.00	1840.17	1.70
DOLPHIN (MAHIMAHI)	1780.00	2024.00	1.14
BLUE MARLIN	176.00	191.00	1.09
RAINBOW RUNNER	16.00	17.28	1.08
WAHOO	18.00	18.54	1.03
SKIPJACK TUNA	15640.00	9660.00	0.62
DOGTOOTH TUNA	100.00	74.32	0.74
YELLOWFIN TUNA	4966.00	5006.00	1.01
** SUBTOTAL **	27439.00	24266.64	

Table II.5.12

AMERICAN SAMOA NOVEMBER 1986 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
BARRACUDAS	227.00	170.00	0.75
SHARKS	649.00	649.00	1.00
BOTTOM FISH	2709.00	3386.00	1.25
GRAY JOBFISH	9.00	13.50	1.50
EHU (RED SNAPPER)	97.00	121.00	1.25
REEF FISH	860.00	1075.00	1.25
RAINBOW RUNNER	11.00	11.88	1.08
SKIPJACK TUNA	11218.00	7482.00	0.67
DOGTOOTH TUNA	146.00	146.00	1.00
YELLOWFIN TUNA	3857.00	6172.00	1.60
GIANT CLAM	487.00	1022.00	2.10
** SUBTOTAL **	20270.00	20248.38	

Table II.5.13

AMERICAN SAMOA DECEMBER 1986 ESTIMATED COMMERCIAL LANDINGS

SPECIES	POUNDS	VALUE	AVE $/#
BOTTOM FISH	2518.00	3223.00	1.28
GRAY JOBFISH	36.00	32.00	0.89
EHU (RED SNAPPER)	326.00	489.00	1.50
DOLPHIN (MAHIMAHI)	209.00	188.00	0.90
BLUE MARLIN	490.00	534.00	1.09
RAINBOW RUNNER	65.00	65.00	1.00
WAHOO	277.00	368.00	1.33
SKIPJACK TUNA	18921.00	12677.00	0.67
DOGTOOTH TUNA	163.00	187.00	1.15
YELLOWFIN TUNA	3166.00	2944.00	0.93
GIANT CLAM	685.00	1438.00	2.10
** SUBTOTAL **	26856.00	22145.00	
** 1986 TOTAL **	322296.70	357515.31	

Figure II.2.1

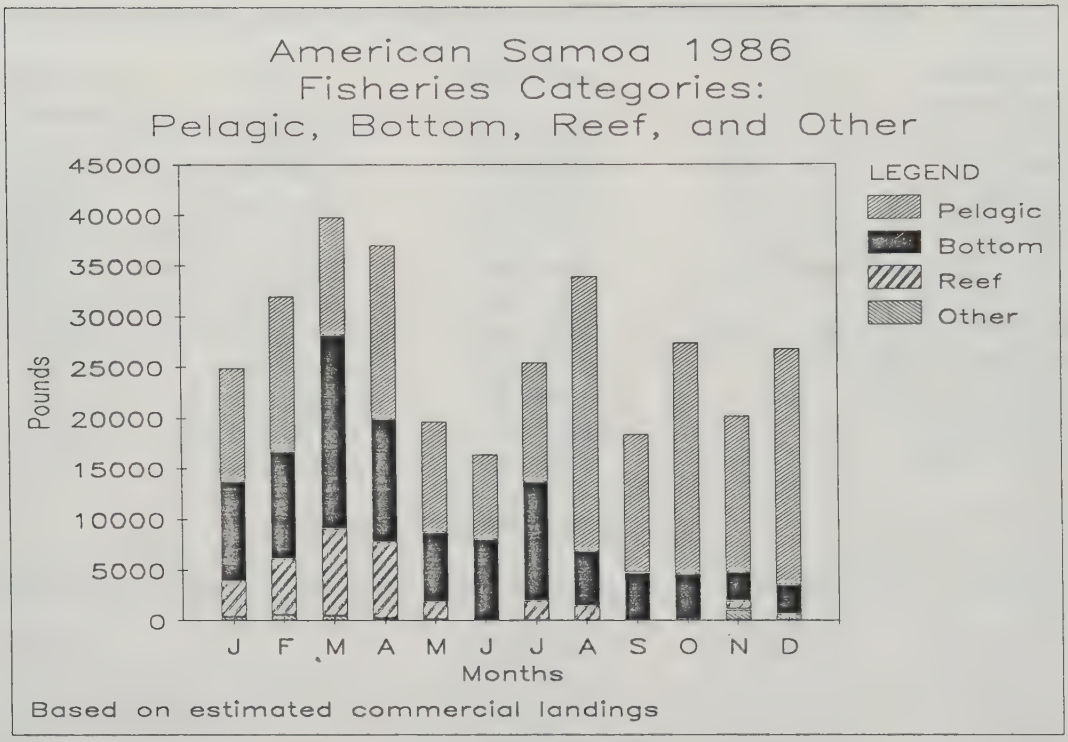


Figure II.2.2

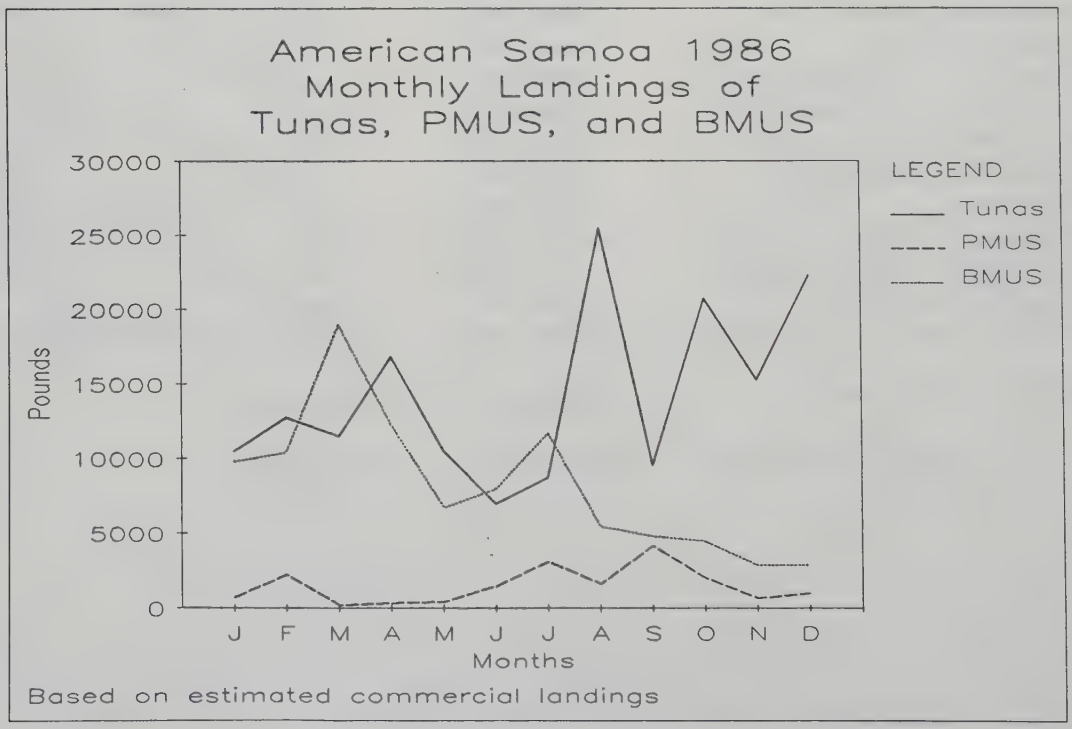


Figure II.2.3

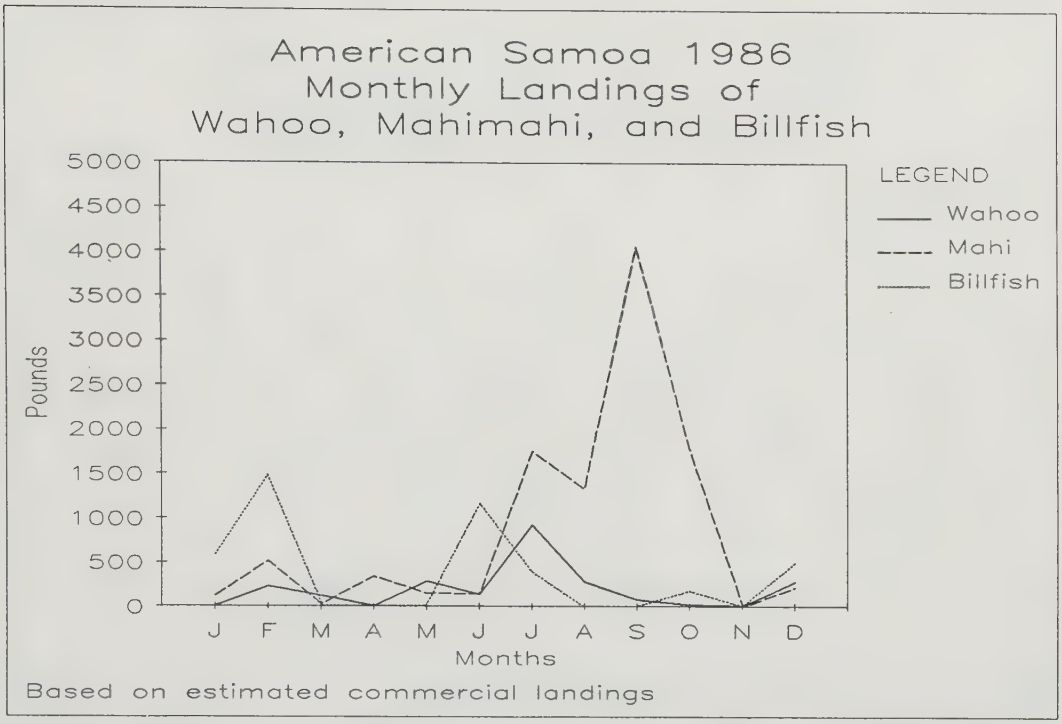


Figure II.2.4

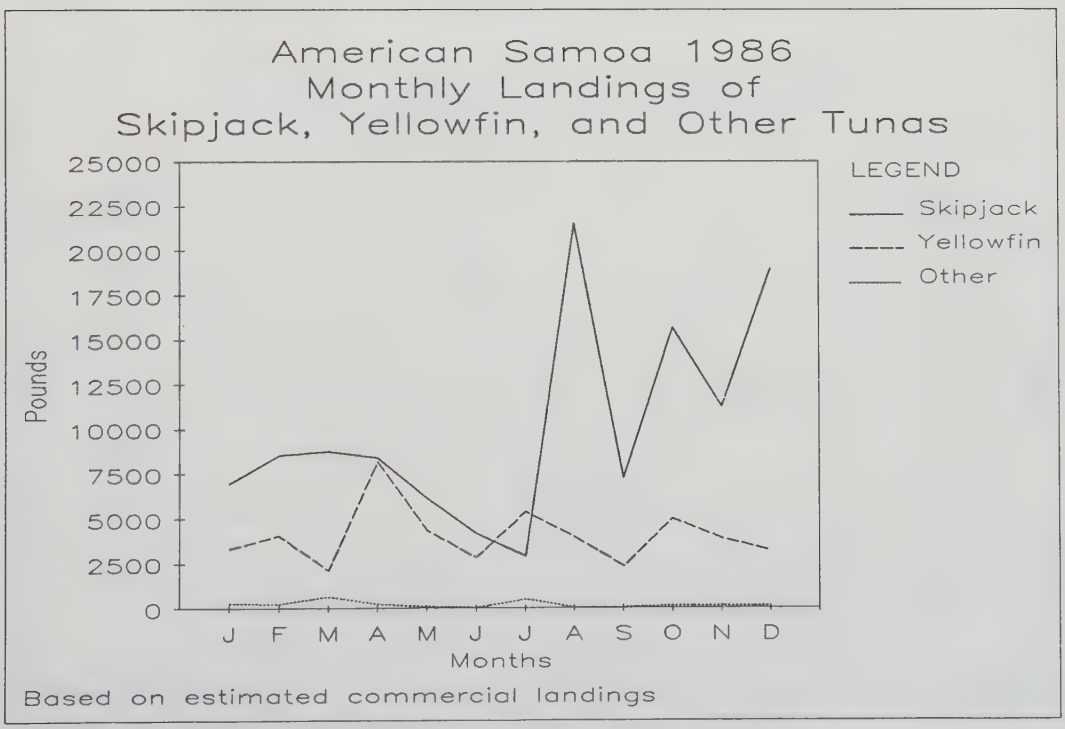


Figure II.3.1

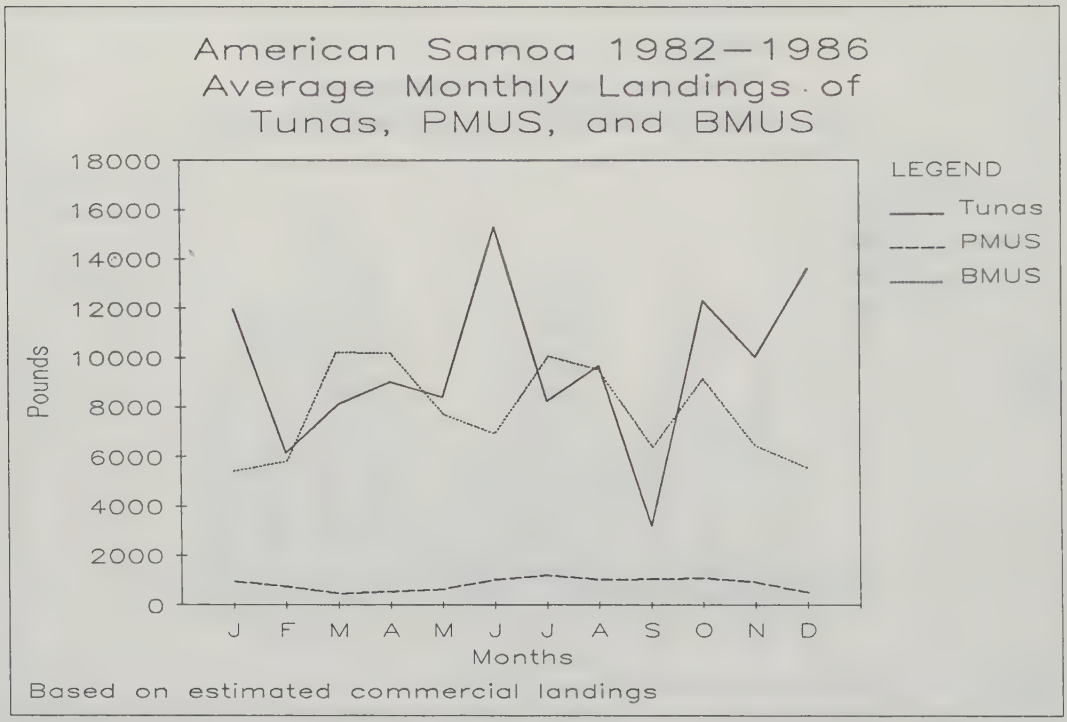


Figure II.3.2

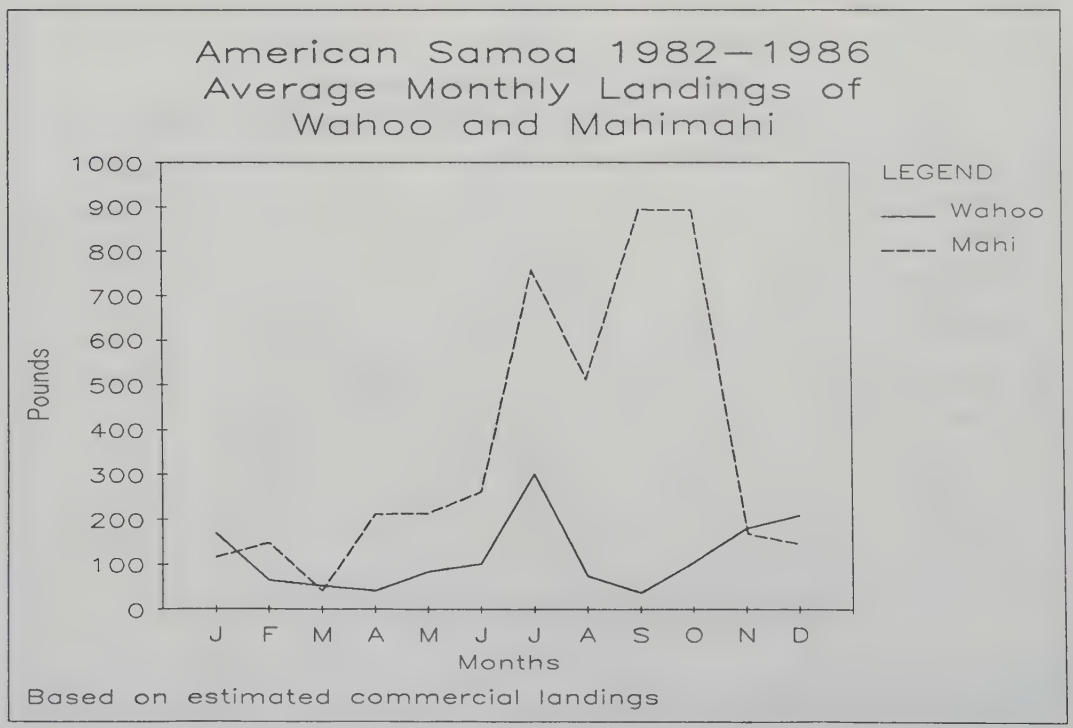


Figure II.3.3

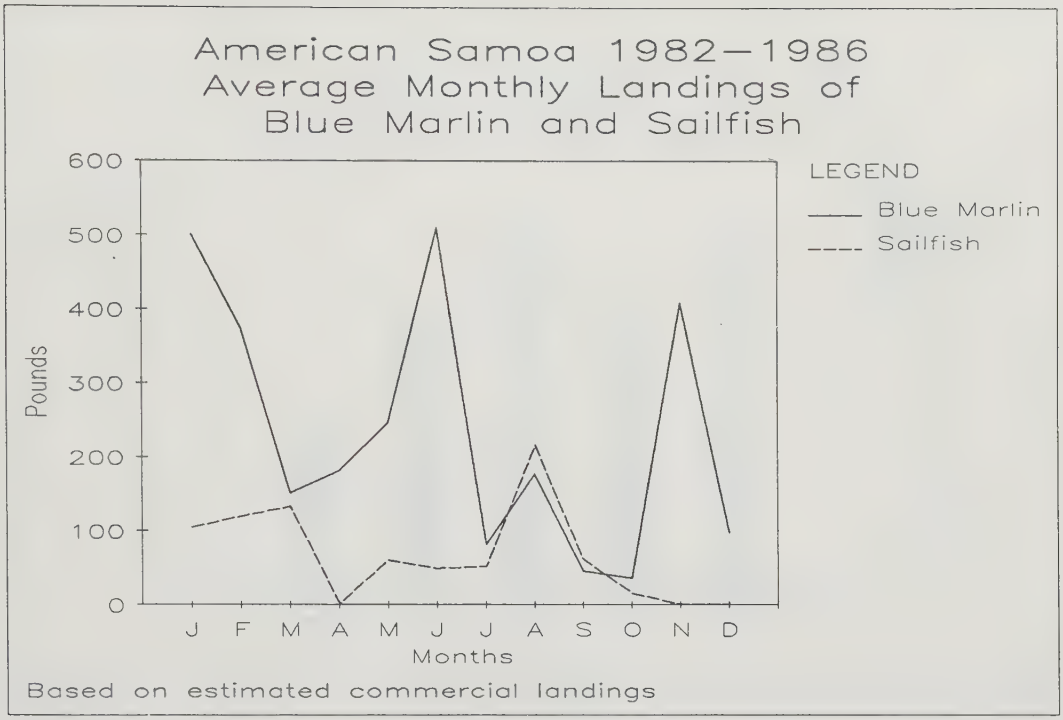


Figure II.3.4

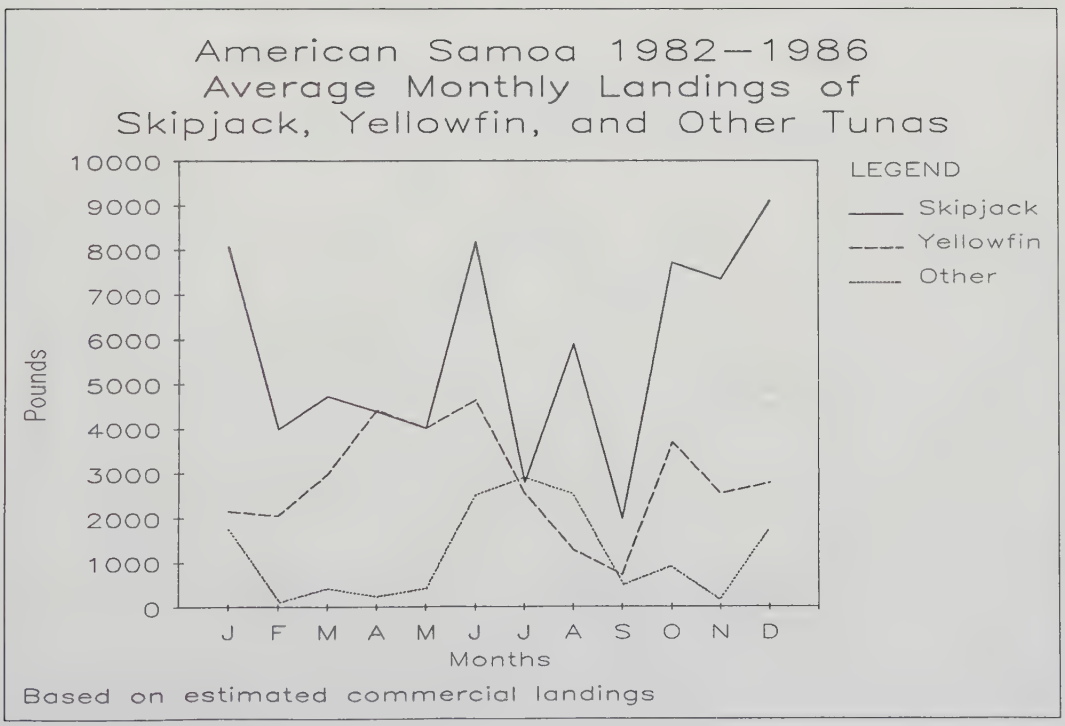


Figure II.3.5

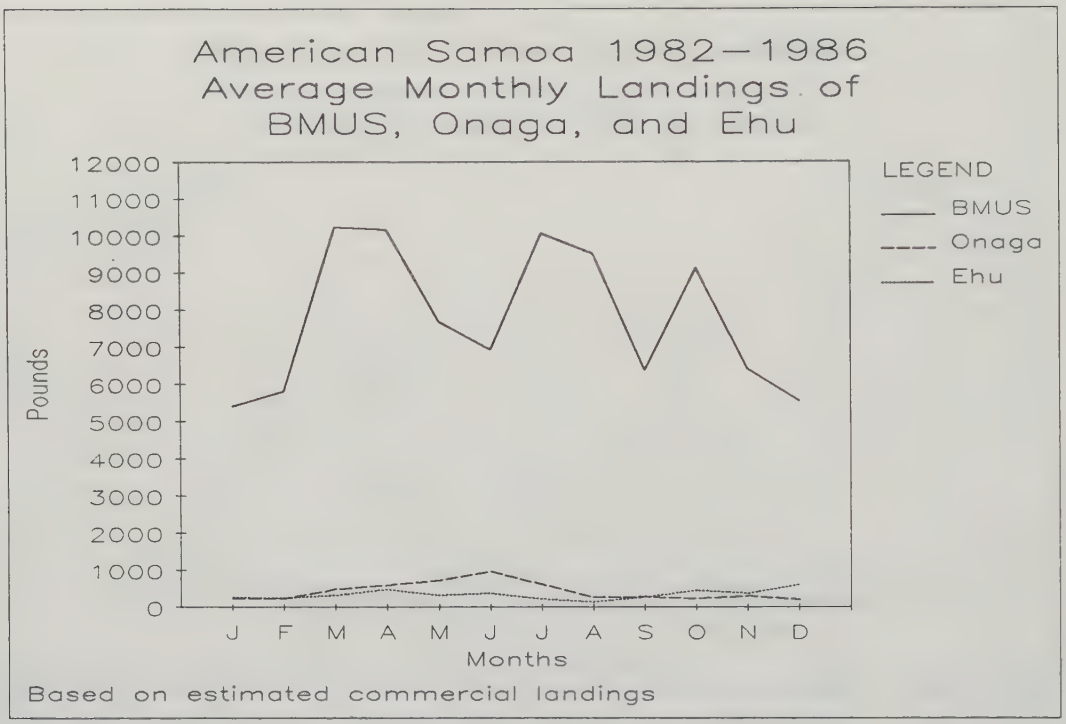

American Samoa 1982—1986
Average Monthly Landings of
BMUS, Onaga, and Ehu
12000
11000
10000
9000
8000
7000
6000
5000
4000
3000
2000
1000
0
Pounds
J F M A M J J A S O N D
Months
LEGEND
BMUS
Onaga
Ehu
Based on estimated commercial landings

Figure II.4.1

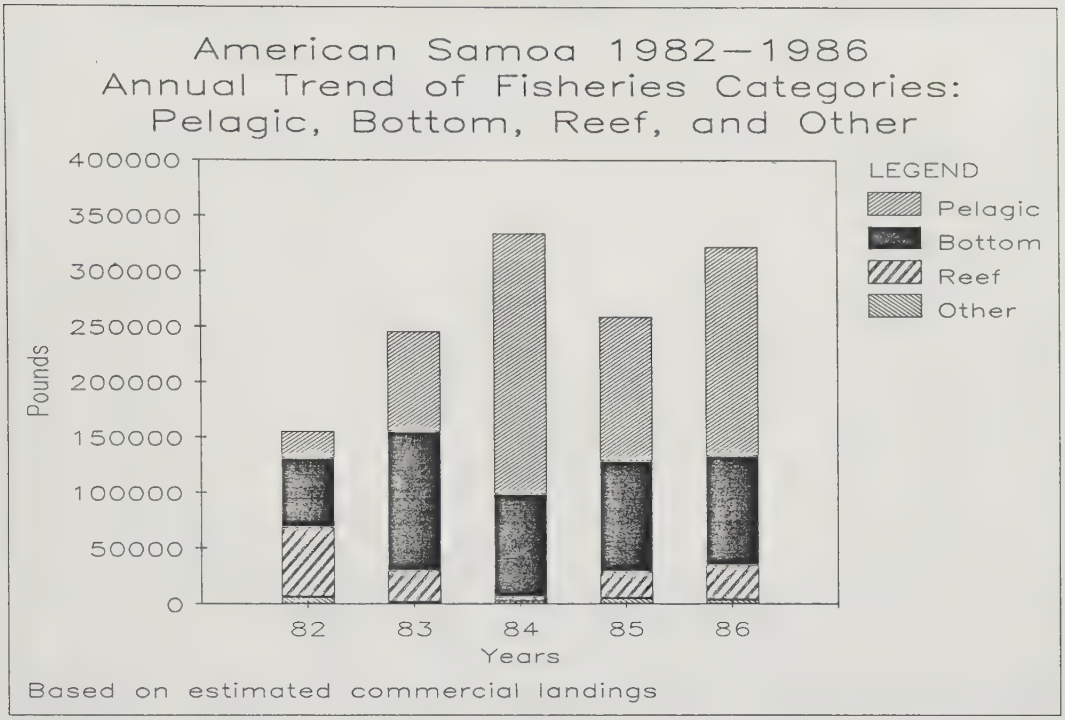


Figure II.4.2

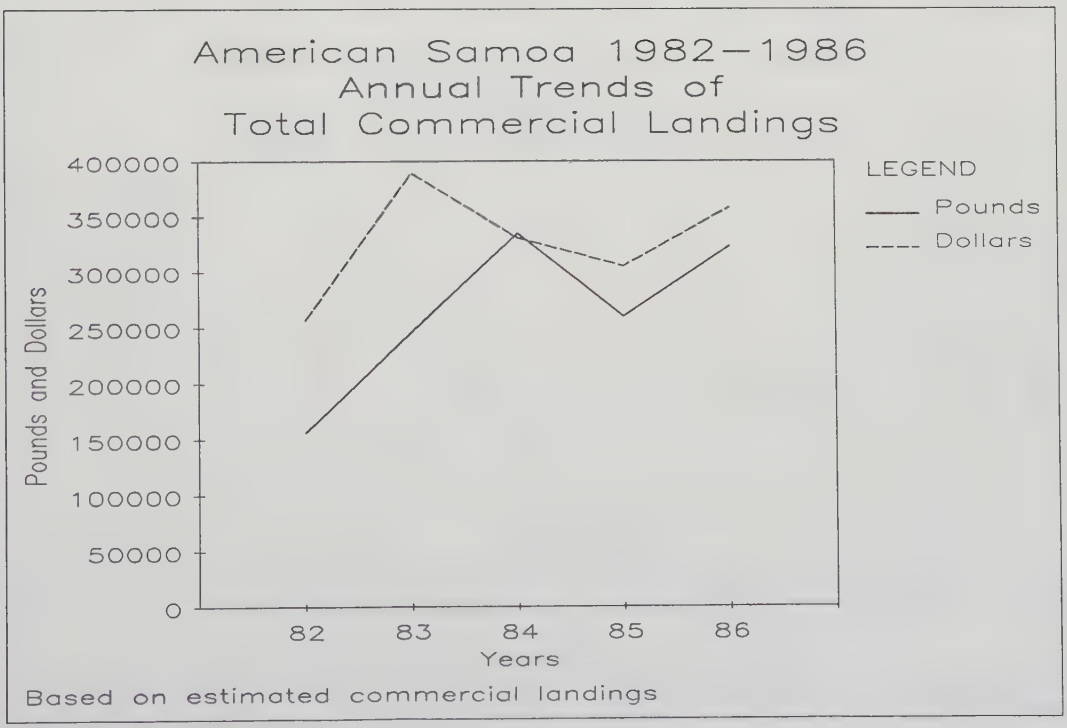


Figure II.4.3

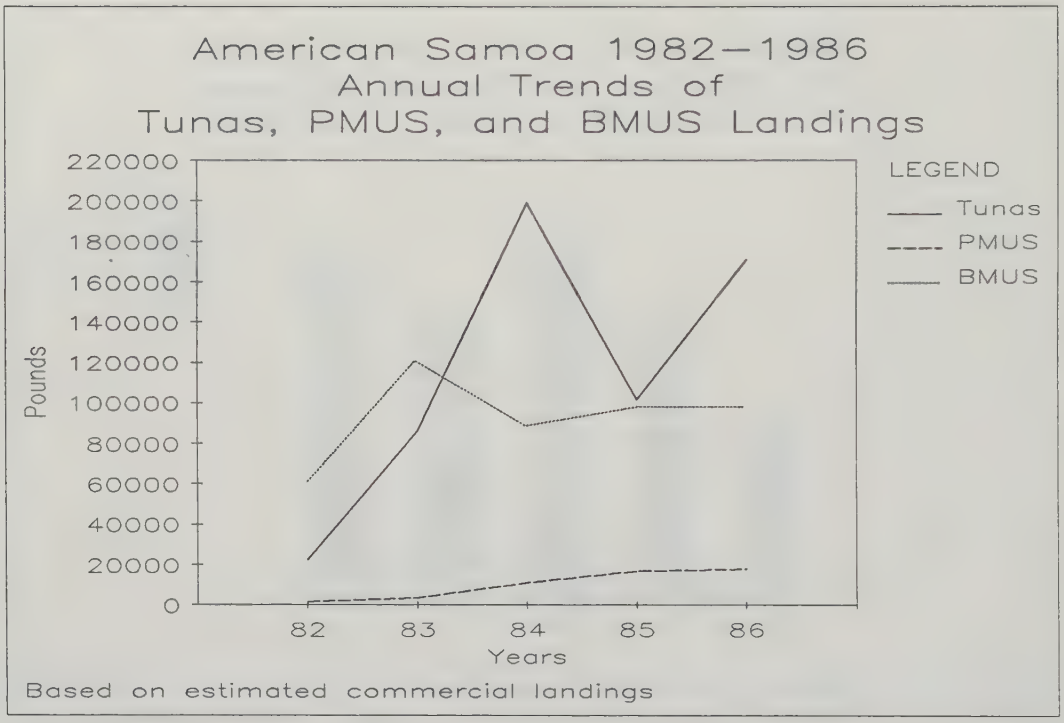


Figure II.4.4

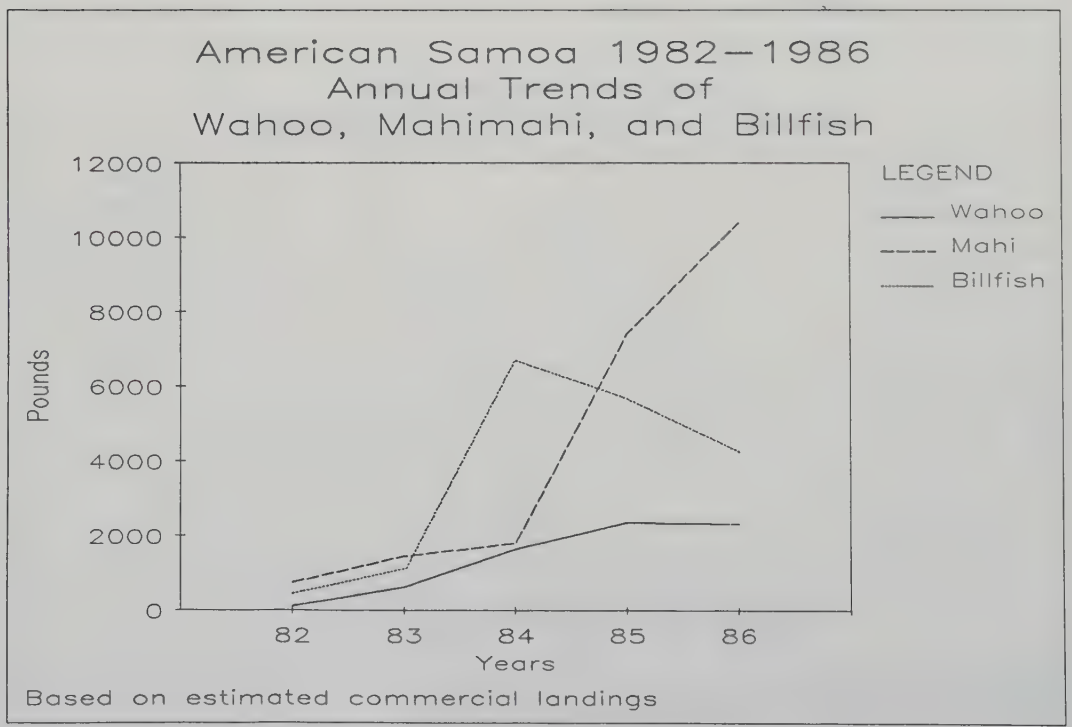


Figure II.4.5

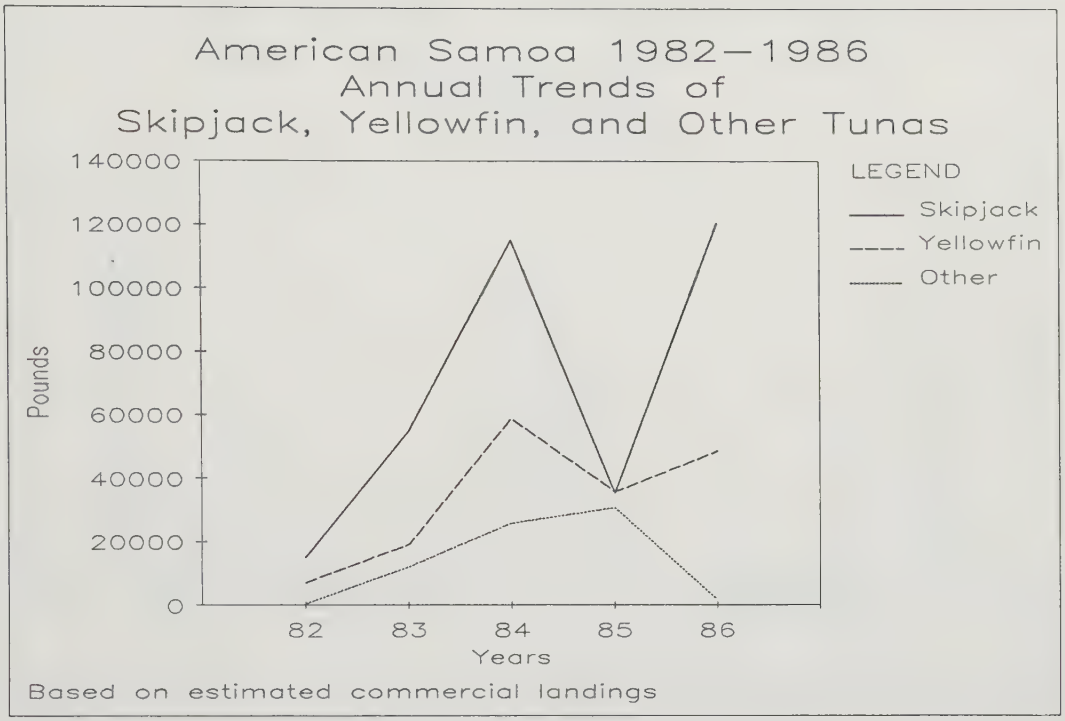

American Samoa 1982—1986
Annual Trends of
Skipjack, Yellowfin, and Other Tunas
140000
120000
100000
80000
60000
40000
20000
0
Pounds
82
83
84
85
86
Years
LEGEND
Skipjack
Yellowfin
Other
Based on estimated commercial landings

Figure II.5.1

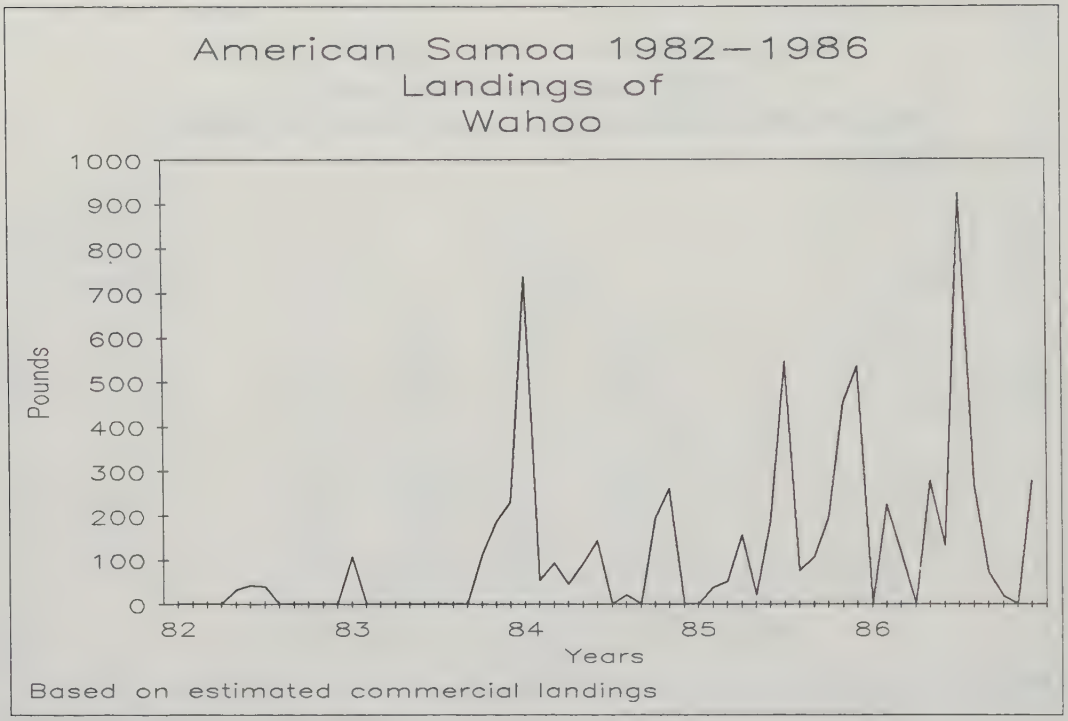


Figure II.5.2

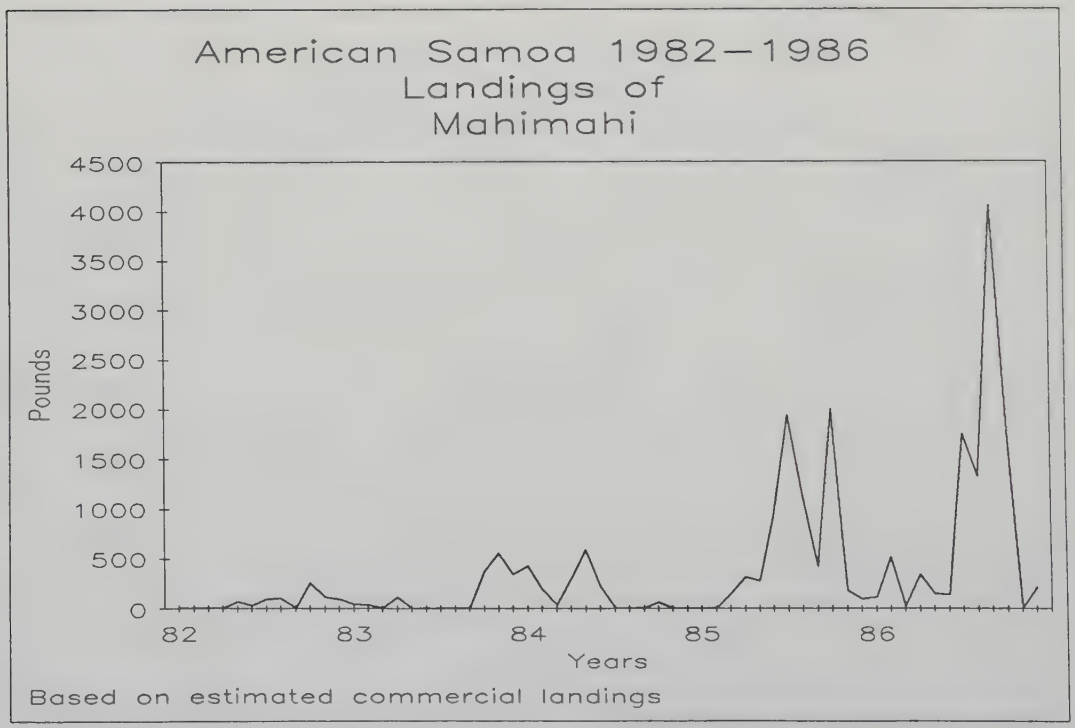


Figure II.5.3

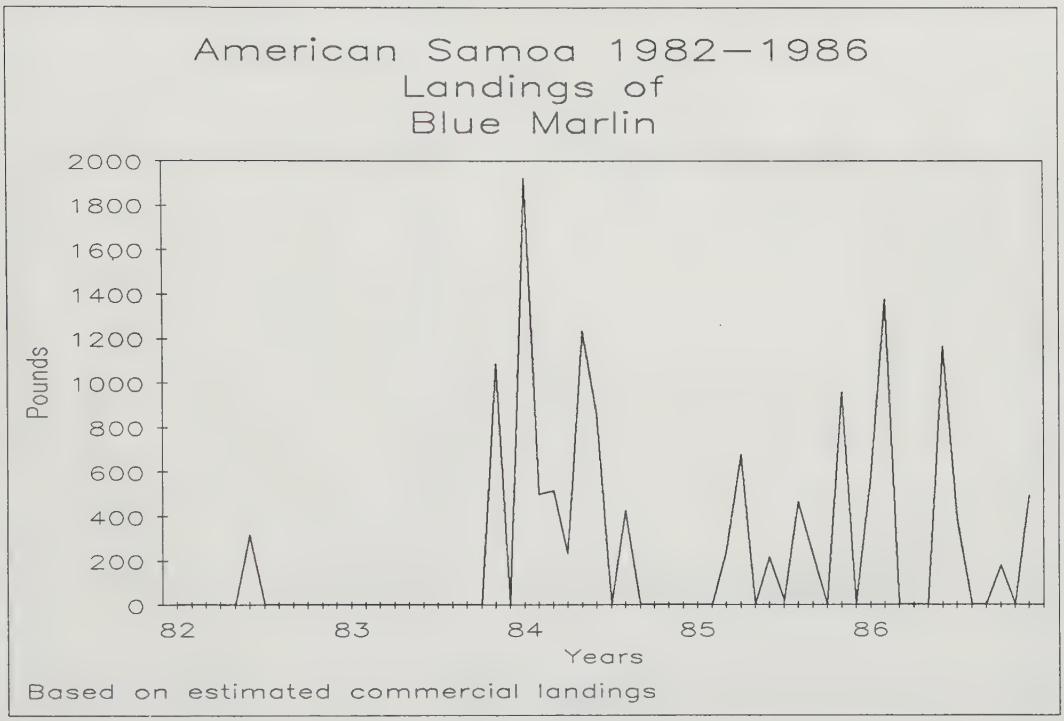


Figure II.5.4

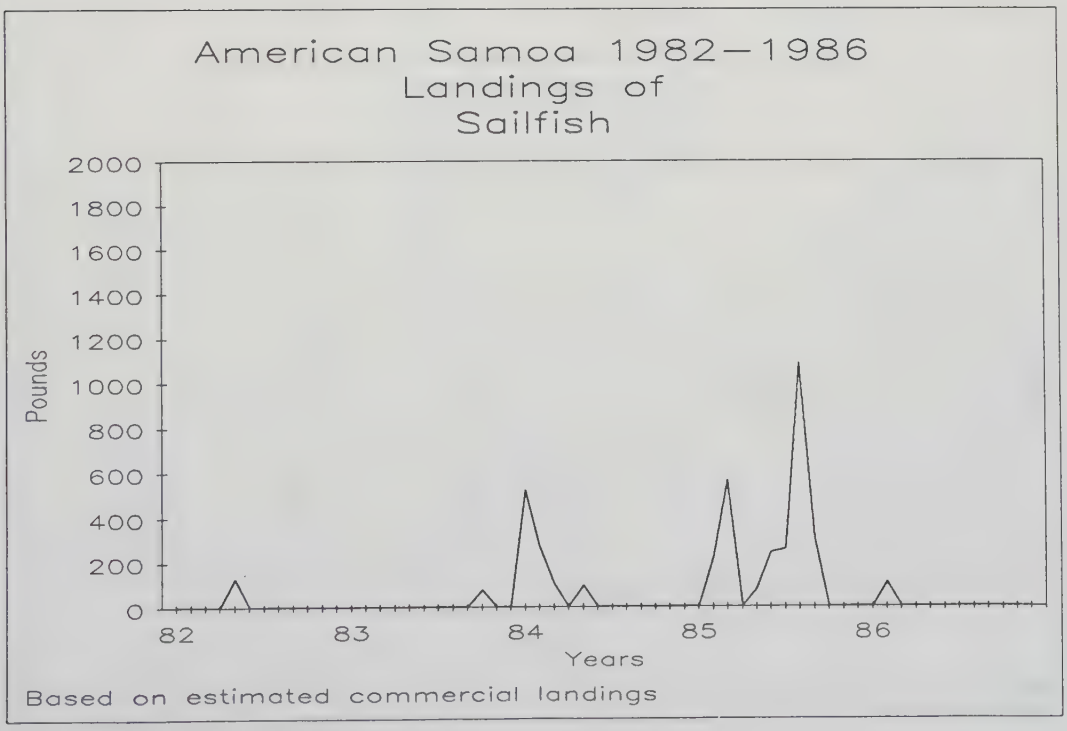


Figure II.5.5

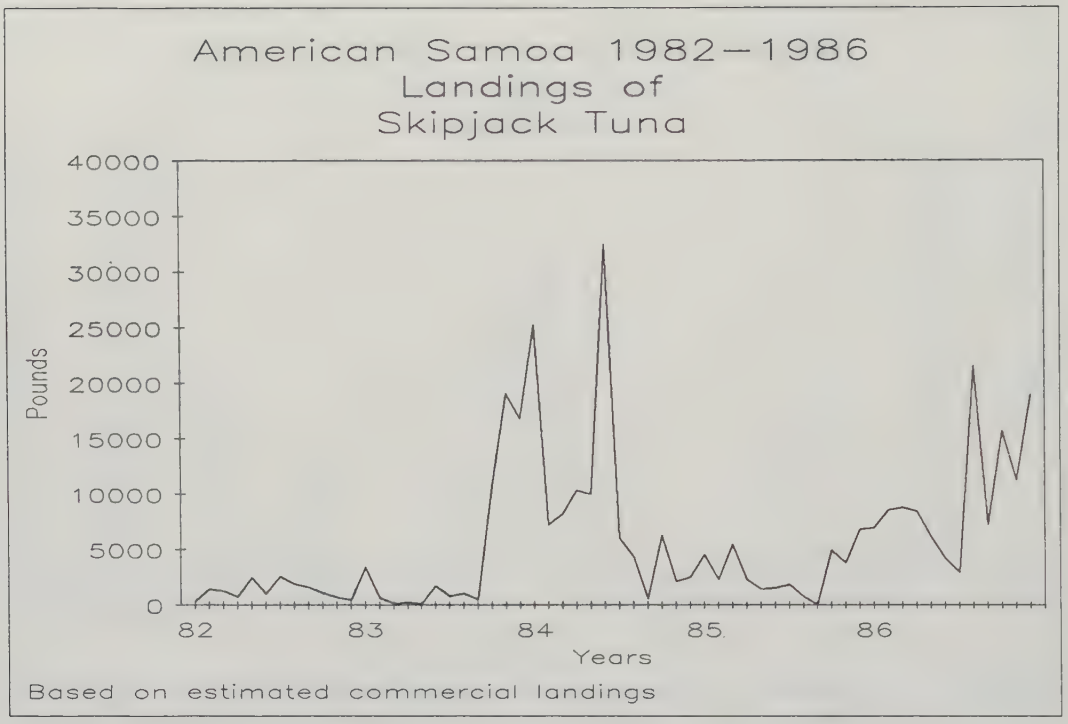
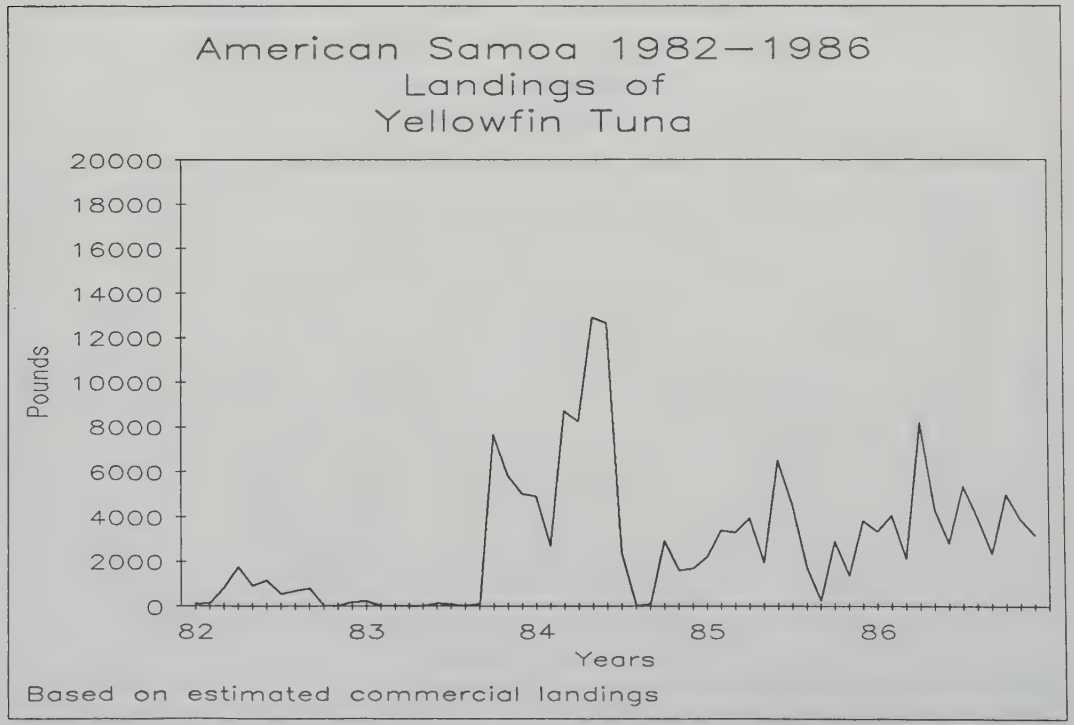


Figure II.5.6



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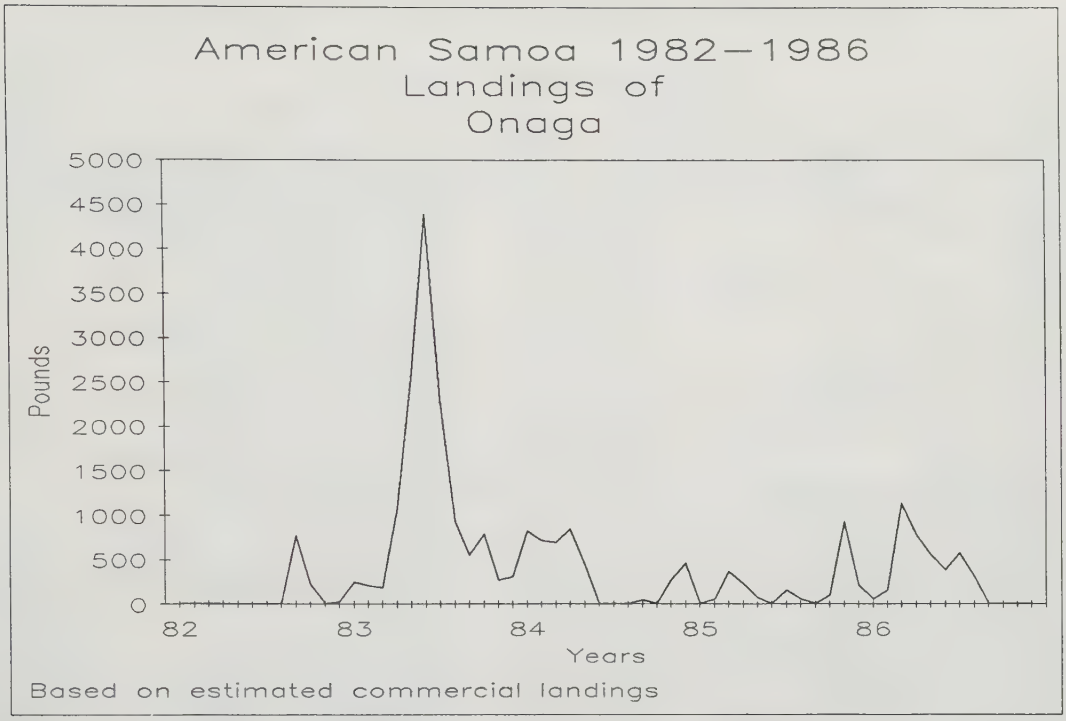

Figure II.5.8

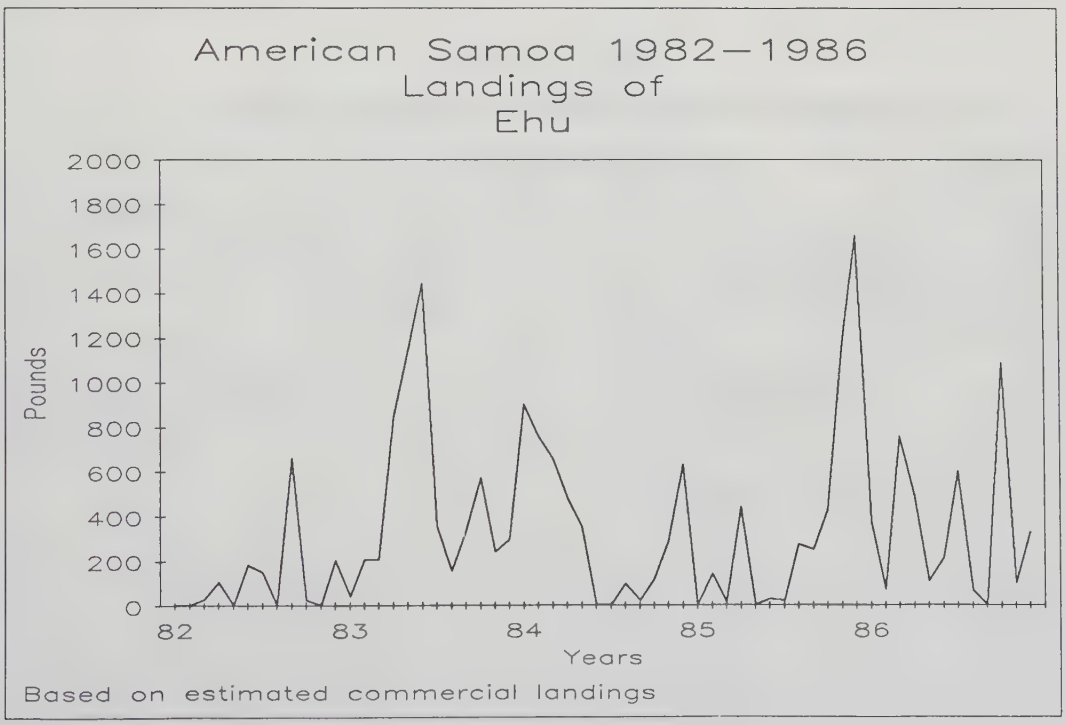

Table II.6.1

MANU'A 1985 ANNUAL ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
MISCELLANEOUS	347.00	BLUE LINED GINDAI	125.00
JACKS	566.00	GINDAI (FLOWER SNAP)	516.00
BIGEYE TREVALLY	95.00	ONAGA (RED SNAPPER)	294.00
BARRACUDAS	362.00	EHU (RED SNAPPER)	2438.00
SHARKS	1264.00	BLACK SNAPPER	27.00
BOTTOM FISH	2389.00	STONE'S SNAPPER	58.00
GROUPERS	12.00	KUSAKAR'S SNAPPER	18.00
TOMATO GROUPER	234.00	EMPERORS (MISC)	212.00
BLACKTIP GROUPER	13.00	LONGNOSE EMPEROR	80.00
LUNARTAIL GROUPER	311.00	SQUIRRELFISH	133.00
SNAPPERS	20.00	SABER SQUIRRELFISH	4.00
BLUE LINED SNAPPER	434.00	GOATFISH	29.00
BLACKTAIL SNAPPER	40.00	TRIGGERFISH	3.00
ONESPOT SNAPPER	80.00	DOLPHIN (MAHIMAHI)	111.00
HUMPBACK SNAPPER	75.00	RAINBOW RUNNER	543.00
GRAY JOBFISH	314.00	WAHOO	299.00
DEEPWATER BOTTOMFISH	138.00	SKIPJACK TUNA	20338.00
YELLOW OPAKAPAKA	200.00	DOGTOOTH TUNA	343.00
HAWAIIAN OPAKAPAKA	167.00	YELLOWFIN TUNA	10422.00
OPAKAPAKA	104.00	KAWAKAWA	470.00
		** TOTAL **	43628.00

Table II.6.2

MANU'A JANUARY 1985 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
JACKS	44.00	DOGTOOTH TUNA	36.00
GINDAI (FLOWER SNAP)	39.00	YELLOWFIN TUNA	1943.00
RAINBOW RUNNER	11.00	KAWAKAWA	16.00
SKIPJACK TUNA	2681.00		
		** TOTAL **	4770.00

Table II.6.3

MAU'A FEBRUARY 1985 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
SHARKS	47.00	SKIPJACK TUNA	1171.00
GINDAI (FLOWER SNAP)	67.00	DOGTOOTH TUNA	40.00
EMPERORS (MISC)	40.00	YELLOWFIN TUNA	1259.00
		** TOTAL **	2624.00

Table II.6.4

MANU'A MARCH 1985 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
JACKS	147.00	SQUIRRELFISH	100.00
SHARKS	107.00	SKIPJACK TUNA	3139.00
ONESPOT SNAPPER	60.00	YELLOWFIN TUNA	28.00
GINDAI (FLOWER SNAP)	67.00		
		** TOTAL **	3648.00

Table II.6.5

MANU'A APRIL 1985 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
JACKS	20.00	YELLOW OPAKAPAKA	35.00
BARRACUDAS	48.00	GINDAI (FLOWER SNAP)	25.00
SHARKS	314.00	DOLPHIN (MAHIMAHI)	21.00
BOTTOM FISH	187.00	WAHOO	66.00
BLUE LINED SNAPPER	70.00	SKIPJACK TUNA	1732.00
HUMPBACK SNAPPER	66.00	YELLOWFIN TUNA	1490.00
GRAY JOBFISH	23.00	KAWAKAWA	58.00
		** TOTAL **	4155.00

Table II.6.6

MANU'A MAY 1985 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
BARRACUDAS	21.00	WAHOO	20.00
DOLPHIN (MAHIMAHI)	61.00	SKIPJACK TUNA	1234.00
RAINBOW RUNNER	136.00	YELLOWFIN TUNA	1101.00
		** TOTAL **	2573.00

Table II.6.7

MANU'A JUNE 1985 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
JACKS	15.00	EHU (RED SNAPPER)	26.00
BARRACUDAS	44.00	EMPERORS (MISC)	33.00
SHARKS	425.00	RAINBOW RUNNER	33.00
BOTTOM FISH	574.00	WAHOO	22.00
GROUPERS	12.00	SKIPJACK TUNA	1271.00
TOMATO GROUPER	48.00	YELLOWFIN TUNA	1160.00
LUNARTAIL GROUPER	48.00	KAWAKAWA	130.00
		** TOTAL **	3971.00

Table II.6.8

MANU'A JULY 1985 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
SHARKS	209.00	DOGTOOTH TUNA	48.00
BOTTOM FISH	151.00	YELLOWFIN TUNA	914.00
WAHOO	26.00	KAWAKAWA	83.00
SKIPJACK TUNA	1420.00		
		** TOTAL **	2851.00

Table II.6.9

MANU'A AUGUST 1985 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
JACKS	37.00	EMPERORS (MISC)	37.00
BLUE LINED SNAPPER	60.00	SKIPJACK TUNA	455.00
GRAY JOBFISH	52.00	KAWAKAWA	112.00
GINDAI (FLOWER SNAP)	52.00		
		** TOTAL **	805.00

Table II.6.10

MANU'A SEPTEMBER 1985 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
JACKS	31.00	BLACKTAIL SNAPPER	40.00
BARRACUDAS	111.00	ONESPOT SNAPPER	20.00
BOTTOM FISH	120.00	GINDAI (FLOWER SNAP)	55.00
SNAPPERS	20.00	SKIPJACK TUNA	75.00
BLUE LINED SNAPPER	75.00	DOGTOOTH TUNA	16.00
		** TOTAL **	563.00

Table II.6.11

MANU'A OCTOBER 1985 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
MISCELLANEOUS	99.00	EHU (RED SNAPPER)	63.00
JACKS	61.00	EMPERORS (MISC)	44.00
BIGEYE TREVALLY	95.00	GOATFISH	29.00
BARRACUDAS	122.00	DOLPHIN (MAHIMAHI)	27.00
SHARKS	95.00	WAHOO	37.00
BOTTOM FISH	82.00	SKIPJACK TUNA	4766.00
TOMATO GROUPER	32.00	DOGTOOTH TUNA	91.00
LUNARTAIL GROUPER	86.00	YELLOWFIN TUNA	1846.00
BLUE LINED SNAPPER	51.00	KAWAKAWA	39.00
OPAKAPAKA	82.00		
		** TOTAL **	7747.00

Table II.6.12

MANU'A NOVEMBER 1985 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
MISCELLANEOUS	118.00	EHU (RED SNAPPER)	711.00
JACKS	211.00	BLACK SNAPPER	27.00
BARRACUDAS	16.00	STONE'S SNAPPER	58.00
SHARKS	67.00	KUSAKAR'S SNAPPER	18.00
TOMATO GROUPER	154.00	EMPERORS (MISC)	58.00
BLACKTIP GROUPER	13.00	LONGNOSE EMPEROR	80.00
LUNARTAIL GROUPER	177.00	SQUIRRELFISH	33.00
BLUE LINED SNAPPER	178.00	SABER SQUIRRELFISH	4.00
HUMPBACK SNAPPER	9.00	TRIGGERFISH	3.00
GRAY JOBFISH	64.00	DOLPHIN (MAHIMAHI)	2.00
DEEPWATER BOTTOMFISH	138.00	RAINBOW RUNNER	13.00
YELLOW OPAKAPAKA	2.00	WAHOO	128.00
HAWAIIAN OPAKAPAKA	167.00	SKIPJACK TUNA	1806.00
OPAKAPAKA	22.00	DOGTOOTH TUNA	112.00
GINDAI (FLOWER SNAP)	211.00	YELLOWFIN TUNA	368.00
ONAGA (RED SNAPPER)	294.00	KAWAKAWA	32.00
		** TOTAL **	5294.00

Table II.6.13

MANU'A DECEMBER 1985 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
BOTTOM FISH	1275.00	EHU (RED SNAPPER)	1638.00
GRAY JOBFISH	175.00	RAINBOW RUNNER	350.00
YELLOW OPAKAPAKA	163.00	SKIPJACK TUNA	588.00
BLUE LINED GINDAI	125.00	YELLOWFIN TUNA	313.00
		** TOTAL **	4627.00

Table II.7.1

MANU'A 1986 ANNUAL ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
MISCELLANEOUS	269.00	GRAY JOBFISH	69.00
JACKS	305.00	DEEPWATER BOTTOMFISH	112.00
BARRACUDAS	124.75	EHU (RED SNAPPER)	639.00
SMALL BARRACUDA	55.00	EMPERORS (MISC)	118.50
SHARKS	89.00	SQUIRRELFISH	131.25
BOTTOM FISH	1929.00	SABER SQUIRRELFISH	187.00
GROUPERS	128.00	DOLPHIN (MAHIMAHI)	167.00
TOMATO GROUPER	157.00	RAINBOW RUNNER	125.75
LUNARTAIL GROUPER	232.00	WAHOO	202.00
BLUE LINED SNAPPER	340.00	SKIPJACK TUNA	14452.50
ONESPOT SNAPPER	98.25	DOGTOOTH TUNA	143.00
TWINSPOT/RED SNAPPER	47.00	YELLOWFIN TUNA	6648.95
HUMPBACK SNAPPER	167.00	KAWAKAWA	28.75
		** TOTAL **	26965.70

Table II.7.2

MANU'A JANUARY 1986 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
BOTTOM FISH	225.00	SKIPJACK TUNA	342.00
EHU (RED SNAPPER)	300.00		
		** TOTAL **	867.00

Table II.7.3

MANU'A FEBRUARY 1986 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
BOTTOM FISH	808.00	SABER SQUIRRELFISH	53.00
GROUPERS	38.00	RAINBOW RUNNER	53.00
TOMATO GROUPER	54.00	WAHOO	46.00
BLUE LINED SNAPPER	34.00	SKIPJACK TUNA	1403.00
ONESPOT SNAPPER	16.00	YELLOWFIN TUNA	1252.00
HUMPBACK SNAPPER	66.00		
		** TOTAL **	3823.00

Table II.7.4

MANU'A MARCH 1986 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
JACKS	60.00	EMPERORS (MISC)	76.50
BARRACUDAS	21.75	SQUIRRELFISH	52.25
SMALL BARRACUDA	25.00	SABER SQUIRRELFISH	27.00
SHARKS	37.00	DOLPHIN (MAHIMAHI)	21.00
BOTTOM FISH	70.00	RAINBOW RUNNER	16.75
LUNARTAIL GROUPER	72.00	WAHOO	116.00
BLUE LINED SNAPPER	58.00	SKIPJACK TUNA	2781.50
ONESPOT SNAPPER	29.25	DOGTOOTH TUNA	32.00
HUMPBACK SNAPPER	93.00	YELLOWFIN TUNA	1141.75
DEEPWATER BOTTOMFISH	29.00	KAWAKAWA	16.75
		** TOTAL **	4776.50

Table II.7.5

MANU'A APRIL 1986 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
BOTTOM FISH	220.00	YELLOWFIN TUNA	103.00
SKIPJACK TUNA	1187.00		
		** TOTAL **	1510.00

Table II.7.6

MANU'A MAY 1986 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
MISCELLANEOUS	77.00	SQUIRRELFISH	79.00
JACKS	60.00	SABER SQUIRRELFISH	107.00
GROUPERS	90.00	DOLPHIN (MAHIMAHI)	79.00
TOMATO GROUPER	103.00	RAINBOW RUNNER	20.00
LUNARTAIL GROUPER	83.00	WAHOO	22.00
BLUE LINED SNAPPER	200.00	SKIPJACK TUNA	2385.00
ONESPOT SNAPPER	26.00	DOGTOOTH TUNA	59.00
EHU (RED SNAPPER)	161.00	YELLOWFIN TUNA	1321.10
EMPERORS (MISC)	42.00	KAWAKAWA	12.00
		** TOTAL **	4926.10

Table II.7.7

MANU'A JUNE 1986 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
MISCELLANEOUS	31.00	GRAY JOBFISH	23.00
SMALL BARRACUDA	30.00	DEEPWATER BOTTOMFISH	28.00
SHARKS	28.00	SKIPJACK TUNA	3479.00
BOTTOM FISH	50.00	DOGTOOTH TUNA	20.00
TWINSPOT/RED SNAPPER	47.00	YELLOWFIN TUNA	1177.10
HUMPBACK SNAPPER	8.00		
		** TOTAL **	4921.10

Table II.7.8

MANU'A JULY 1986 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
BOTTOM FISH	80.00	YELLOWFIN TUNA	40.00
SKIPJACK TUNA	320.00		
		** TOTAL **	440.00

Table II.7.9

MANU'A AUGUST 1986 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
MISCELLANEOUS	46.00	DOLPHIN (MAHIMAHI)	33.00
JACKS	37.00	RAINBOW RUNNER	9.00
LUNARTAIL GROUPER	16.00	SKIPJACK TUNA	964.00
BLUE LINED SNAPPER	48.00	YELLOWFIN TUNA	496.00
DEEPWATER BOTTOMFISH	55.00		
		** TOTAL **	1704.00

Table II.7.10

MANU'A SEPTEMBER 1986 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
BOTTOM FISH	315.00	SKIPJACK TUNA	175.00
		** TOTAL **	490.00

Table II.7.11

MANU'A OCTOBER 1986 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
MISCELLANEOUS	115.00	EHU (RED SNAPPER)	178.00
JACKS	148.00	DOLPHIN (MAHIMAHI)	34.00
BARRACUDAS	103.00	RAINBOW RUNNER	16.00
SHARKS	24.00	WAHOO	18.00
BOTTOM FISH	161.00	SKIPJACK TUNA	1116.00
LUNARTAIL GROUPER	61.00	DOGTOOTH TUNA	32.00
ONESPOT SNAPPER	27.00	YELLOWFIN TUNA	936.00
GRAY JOBFISH	37.00		
		** TOTAL **	3006.00

Table II.7.12

MANU'A NOVEMBER 1986 ESTIMATED TOTAL LANDINGS

SPECIES	POUNDS	SPECIES	POUNDS
GRAY JOBFISH	9.00	SKIPJACK TUNA	300.00
RAINBOW RUNNER	11.00	YELLOWFIN TUNA	182.00
		** TOTAL **	502.00

NOTE: NO DECEMBER 1986 MANU'A DATA EXISTS DUE TO A SEVERE TYPH

Table II.8.1

TUTUILA OCTOBER 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	2395.8	30	222.8	26	19.4	23	554.2	26	50.0	24	12.7	98*
BOTTOM FISH	16791.3	22	2463.2	15	150.3	17	6456.7	15	390.6	16	6.5	32*
TROLL-BOTTOM	2336.1	58	163.9	49	6.9	50	238.9	50	11.1	55	13.6	78*
SPEARING	6284.7	29	386.8	29	30.2	31	1764.6	30	138.5	32	16.8	38*
TOTAL:	27808.0	19	3236.7	15	206.9	16	9014.3	16	590.3	17	8.4	35*

Table II.8.2

TUTUILA NOVEMBER 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	4028.7	32	366.4	32	38.8	30	804.2	29	85.2	28	10.9	49*
BOTTOM FISH	15260.3	13	2293.8	13	153.0	12	6452.1	13	431.5	12	6.9	11
SPEARING	1749.3	47	157.9	46	12.7	46	886.1	48	71.3	47	11.0	3*
TOTAL:	21038.3	13	2818.1	12	204.6	12	8142.4	14	588.0	13	7.6	9

Table II.8.3

TUTUILA DECEMBER 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	11728.5	30	694.1	26	69.1	24	1890.0	25	192.4	24	16.5	14
BOTTOM FISH	6925.2	30	1218.4	27	75.1	25	3220.8	28	197.5	25	6.4	21
TROLL-BOTTOM	486.1	82	76.4	82	3.5	82	229.2	82	10.4	82	6.4	0*
SPEARING	13129.0	25	604.7	24	53.2	25	2664.8	24	242.1	27	22.7	14
TOTAL:	32268.8	18	2593.6	18	193.6	18	8004.8	18	620.5	20	13.7	12

* Not enough data to properly compute Coefficient of Variation (CV).

Table II.9.1

TUTUILA OCTOBER 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BARRACUDAS	60.1	0.22	BOTTOM FISH	17792.3	63.98
ONAGA (RED SNAPPER)	103.5	0.37	EHU (RED SNAPPER)	339.7	1.22
REEF FISH	6036.5	21.71	DOLPHIN (MAHIMAHI)	2031.3	7.30
WAHOO	137.5	0.49	SKIPJACK TUNA	100.0	0.36
YELLOWFIN TUNA	958.8	3.45	SPINY LOBSTER	248.3	0.89
TOTAL ALL SPECIES:	27808.0	100.00			

Table II.9.2

TUTUILA NOVEMBER 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BARRACUDAS	18.3	0.09	RAYS	89.1	0.42
BOTTOM FISH	11908.6	56.60	LUNARTAIL GROUPER	9.2	0.04
BLUE LINED SNAPPER	29.6	0.14	ONESPOT SNAPPER	4.1	0.02
GRAY JOBFISH	93.8	0.45	DEEPWATER BOTTOMFISH	505.4	2.40
YELLOW OPAKAPAKA	289.4	1.38	HAWAIIAN OPAKAPAKA	130.4	0.62
GINDAI (FLOWER SNAP)	236.4	1.12	LEHI (SILVERJAW)	26.5	0.13
ONAGA (RED SNAPPER)	670.5	3.19	EHU (RED SNAPPER)	697.0	3.31
EMPERORS (MISC)	112.1	0.53	REEF FISH	1413.2	6.72
SQUIRRELFISH	3.1	0.01	DOLPHIN (MAHIMAHI)	170.2	0.81
BLUE MARLIN	945.7	4.50	RAINBOW RUNNER	18.9	0.09
WAHOO	346.5	1.65	SKIPJACK TUNA	1902.8	9.04
DOGTOOTH TUNA	175.3	0.83	YELLOWFIN TUNA	991.1	4.71
SPINY LOBSTER	247.0	1.17			
TOTAL ALL SPECIES:	21038.3	100.00			

Table II.9.3

TUTUILA DECEMBER 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BOTTOM FISH	6407.2	19.86	LUNARTAIL GROUPER	61.4	0.19
HUMPBACK SNAPPER	17.1	0.05	GRAY JOBFISH	61.8	0.19
YELLOW OPAKAPAKA	19.1	0.06	OPAKAPAKA	38.3	0.12
GINDAI (FLOWER SNAP)	83.6	0.26	ONAGA (RED SNAPPER)	221.6	0.69
EHU (RED SNAPPER)	18.1	0.06	STONE'S SNAPPER	76.6	0.24
EMPERORS (MISC)	157.1	0.49	REEF FISH	11770.4	36.48
TROLL FISH	59.5	0.18	DOLPHIN (MAHIMAHI)	85.6	0.27
RAINBOW RUNNER	78.1	0.24	WAHOO	624.9	1.94
SKIPJACK TUNA	6245.5	19.35	DOGTOOTH TUNA	773.8	2.40
YELLOWFIN TUNA	4110.4	12.74	SPINY LOBSTER	1122.2	3.48
GIANT CLAM	236.5	0.73			
TOTAL ALL SPECIES:	32268.8	100.00			

Table II.10.1

TUTUILA ANNUAL 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	168168.8	7	9235.4	7	942.1	6	25903.2	7	2651.7	7	20.6	5
BOTTOM FISH	63328.4	11	7497.2	10	466.9	9	19359.7	10	1217.0	10	8.2	6
TROLL-BOTTOM	58816.4	11	4828.7	10	270.9	9	11567.7	10	652.1	9	12.0	5
SPEARING	34058.9	16	1299.4	14	133.1	14	6760.4	15	698.4	15	26.6	9
TOTAL:	324372.4	5	22860.7	5	1809.0	5	63591.0	5	5211.3	5	16.0	4

Table II.10.2

TUTUILA JANUARY 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	11842.2	23	660.1	23	91.3	23	1831.5	25	251.7	25	20.3	19
BOTTOM FISH	8889.9	26	1013.5	22	58.0	23	2613.8	24	146.9	23	9.1	18
TROLL-BOTTOM	1646.0	39	151.1	41	10.1	38	394.9	42	26.5	38	11.4	16*
SPEARING	3648.5	50	112.4	43	12.2	44	570.6	44	64.0	47	30.7	80*
TOTAL:	26026.5	17	1937.1	16	171.7	16	5410.8	16	489.2	16	15.4	16

Table II.10.3

TUTUILA FEBRUARY 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	13298.7	15	962.1	22	117.2	19	2817.8	20	343.7	19	16.8	9
BOTTOM FISH	9317.0	11	1457.9	10	104.8	8	4205.8	11	303.3	9	6.3	12
TROLL-BOTTOM	2551.6	32	342.1	31	23.7	29	1041.1	28	72.5	27	8.5	39
SPEARING	6471.1	27	280.2	23	30.4	24	1494.0	22	168.1	24	23.1	41*
TOTAL:	31638.5	10	3042.3	10	276.1	10	9558.6	10	887.5	11	11.0	9

Table II.10.4

TUTUILA MARCH 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	8448.2	27	528.8	26	72.8	25	1519.3	25	208.7	24	15.4	11
BOTTOM FISH	17259.9	24	1997.7	18	116.1	17	5139.1	18	305.2	18	6.9	13
TROLL-BOTTOM	1956.8	44	250.0	43	12.3	41	537.0	40	27.8	40	7.8	33*
SPEARING	8789.0	26	351.5	26	32.6	24	1949.9	27	183.4	25	25.4	10
TOTAL:	36454.0	14	3128.0	13	233.9	12	9145.3	13	725.1	13	12.7	10

* Not enough data to properly compute Coefficient of Variation (CV).

Table II.10.5

TUTUILA APRIL 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	14901.2	18	625.7	21	65.1	18	1400.6	20	145.2	17	30.2	70*
BOTTOM FISH	8675.3	28	966.8	25	62.8	24	2285.3	26	147.9	26	8.1	70*
TROLL-BOTTOM	5668.7	48	463.2	50	28.0	55	1097.4	53	67.4	57	12.3	65*
SPEARING	6695.5	36	150.1	41	17.3	39	1004.3	41	115.4	40	53.0	42*
TOTAL:	35940.7	16	2205.8	22	173.2	19	5787.6	23	475.9	20	19.8	80*

Table II.10.6

TUTUILA MAY 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	5505.1	29	272.7	28	23.6	28	622.9	30	53.9	30	22.0	71*
BOTTOM FISH	2882.2	28	309.8	27	20.2	27	774.4	31	50.5	31	9.9	42*
TROLL-BOTTOM	5867.0	38	437.7	37	26.9	37	875.4	37	53.9	37	13.1	32*
SPEARING	1616.2	51	90.9	53	6.7	51	478.1	57	33.7	53	18.9	32*
TOTAL:	15870.4	21	1111.1	19	77.4	19	2750.8	19	191.9	19	14.5	44*

Table II.10.7

TUTUILA JUNE 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	2148.0	53	116.3	51	13.3	51	289.2	52	33.2	53	18.4	29*
BOTTOM FISH	4431.7	28	528.3	31	33.0	29	1395.3	28	89.0	27	9.3	43*
TROLL-BOTTOM	5487.7	47	299.1	35	16.6	34	840.9	40	46.5	39	15.6	57*
TOTAL:	12067.4	24	943.7	23	62.9	23	2525.4	22	168.8	23	12.9	53*

* Not enough data to properly compute Coefficient of Variation (CV).

Table II.10.8

TUTUILA JULY 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	8470.7	25	715.5	23	57.7	23	1776.2	25	145.9	23	13.1	40
BOTTOM FISH	5948.4	29	584.9	25	34.2	26	1471.6	26	87.2	27	9.9	43*
TROLL-BOTTOM	11557.7	33	637.4	25	34.8	23	1621.7	24	88.7	23	15.7	53*
SPEARING	1961.4	44	111.2	44	11.6	44	449.8	45	45.8	44	17.8	19*
TOTAL:	27938.3	21	2049.0	17	134.2	17	5319.3	18	359.2	17	11.8	11

Table II.10.9

TUTUILA AUGUST 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	23595.4	24	1503.8	24	115.9	22	3836.1	26	290.7	23	18.9	22
BOTTOM FISH	1289.2	43	191.8	40	10.7	39	383.6	40	21.3	39	7.1	57*
TROLL-BOTTOM	6295.0	33	561.4	35	33.0	35	1176.1	35	69.5	35	11.9	8
SPEARING	1482.2	51	103.0	49	10.9	44	337.4	48	36.3	44	14.1	10*
TOTAL:	32661.9	20	2360.0	22	170.5	20	5733.1	23	417.8	21	15.2	12

Table II.10.10

TUTUILA SEPTEMBER 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	13417.0	17	1036.5	24	110.5	20	2759.8	26	293.3	21	18.2	19
BOTTOM FISH	871.0	39	174.0	45	10.7	39	529.2	45	32.0	41	5.9	42*
TROLL-BOTTOM	6192.8	29	551.5	39	31.6	33	1340.9	37	78.0	31	13.9	43*
TOTAL:	20480.8	15	1762.0	20	152.7	18	4630.0	20	403.2	18	17.0	20

* Not enough data to properly compute Coefficient of Variation (CV).

Table II.10.11

TUTUILA OCTOBER 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	21743.2	21	902.5	20	77.8	21	2658.0	19	228.4	21	24.8	13
BOTTOM FISH	1321.0	72	74.1	72	4.9	72	222.2	72	14.8	72	17.8	0*
TROLL-BOTTOM	3772.8	20	350.6	20	19.8	19	775.3	19	44.4	19	11.0	26*
TOTAL:	26837.0	17	1327.2	13	102.5	16	3655.6	14	287.7	17	18.6	6

Table II.10.12

TUTUILA NOVEMBER 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	18622.2	12	898.8	11	86.4	14	3134.4	11	303.7	14	23.0	8
BOTTOM FISH	1358.0	90	143.2	90	9.9	90	286.4	90	19.8	90	9.5	0*
TROLL-BOTTOM	4138.3	45	333.3	36	19.8	36	710.3	37	42.0	37	11.2	31
SPEARING	1049.4	48	42.0	48	4.9	48	167.9	48	19.8	48	25.1	7*
TOTAL:	25167.9	14	1417.3	12	121.0	14	4299.0	11	385.2	13	21.1	7

Table II.10.13

TUTUILA DECEMBER 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	27409.8	20	1046.7	15	113.1	14	3394.3	13	367.1	12	24.8	11
TROLL-BOTTOM	5406.3	33	583.8	37	22.9	28	1445.2	40	52.7	29	10.4	17
SPEARING	864.2	82	18.0	82	3.6	82	72.0	82	14.4	82	48.0	0*
TOTAL:	33680.3	18	1648.5	18	139.7	14	4911.5	17	434.2	12	22.4	13

* Not enough data to properly compute Coefficient of Variation (CV).

Figure II.6.1

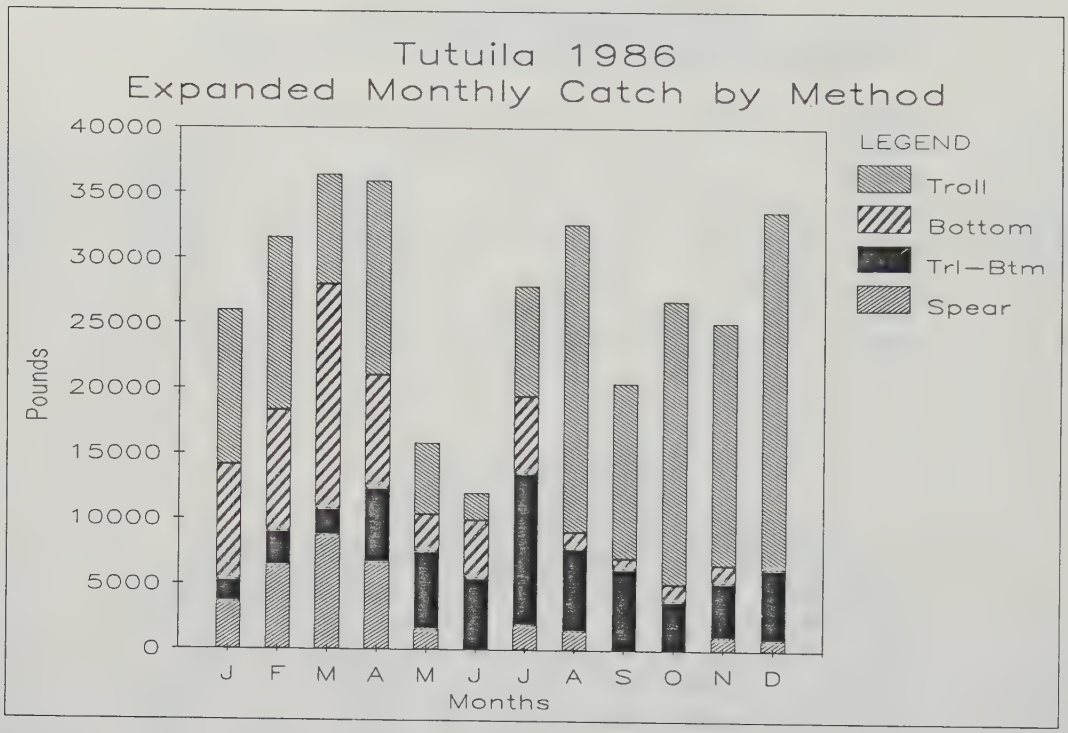

Figure II.6.2

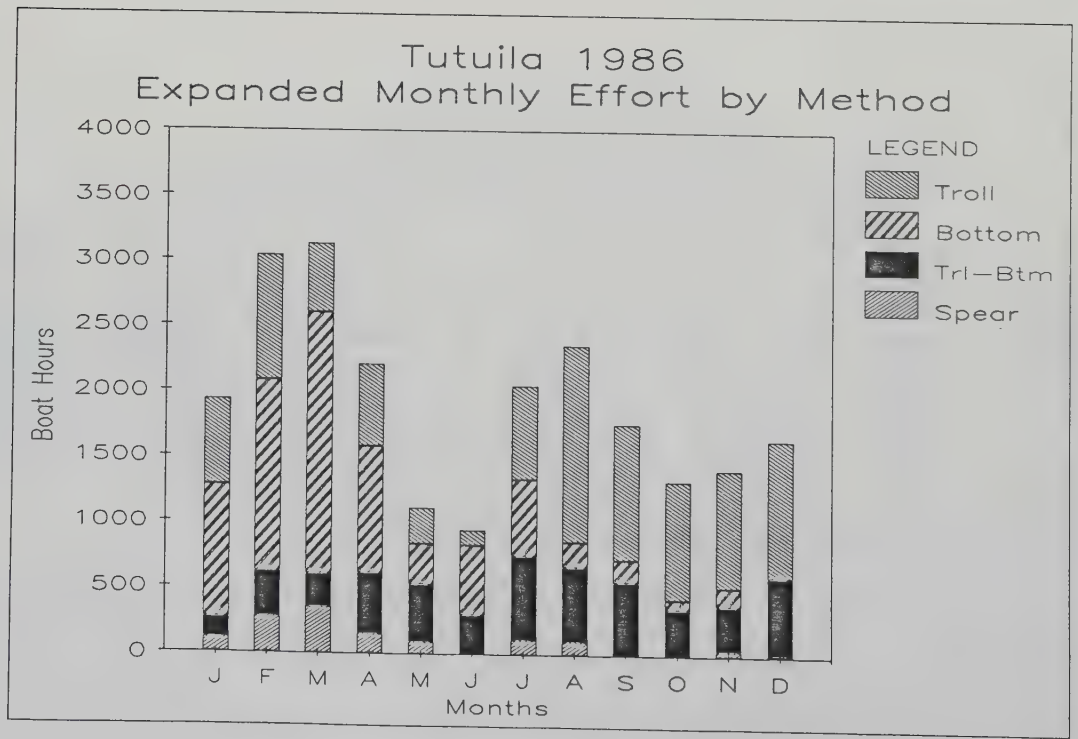

Table II.11.1

TUTUILA ANNUAL 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
JACKS	271.5	0.08	BLACK JACK	380.8	0.12
BARRACUDAS	434.9	0.13	SHARKS	6172.9	1.90
BOTTOM FISH	83708.4	25.81	GROUPERS	13.8	0
SNAPPERS	129.0	0.04	TWINSPOT/RED SNAPPER	41.4	0.01
GRAY JOBFISH	253.1	0.08	DEEPWATER BOTTOMFISH	1053.7	0.32
YELLOW OPAKAPAKA	533.1	0.16	HAWAIIAN OPAKAPAKA	409.1	0.13
GINDAI (FLOWER SNAP)	584.9	0.18	LEHI (SILVERJAW)	681.3	0.21
ONAGA (RED SNAPPER)	3957.6	1.22	EHU (RED SNAPPER)	3949.5	1.22
SNAKE MACKEREL	48.3	0.01	REEF FISH	30787.4	9.49
SQUIRRELFISH	36.2	0.01	TROLL FISH	274.2	0.08
DOLPHIN (MAHIMAHI)	11762.1	3.63	BLUE MARLIN	4182.4	1.29
SAILFISH	263.1	0.08	RAINBOW RUNNER	194.5	0.06
WAHOO	2384.3	0.74	SKIPJACK TUNA	122191.4	37.67
DOGTOOTH TUNA	2243.3	0.69	YELLOWFIN TUNA	44080.9	13.59
KAWAKAWA	78.1	0.02	SPINY LOBSTER	1914.0	0.59
GIANT CLAM	1357.5	0.42			
TOTAL ALL SPECIES:	324372.5	100.00			

Table II.11.2

TUTUILA JANUARY 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BARRACUDAS	97.0	0.37	BOTTOM FISH	9118.8	35.04
TWINSPOT/RED SNAPPER	41.0	0.16	GRAY JOBFISH	105.8	0.41
HAWAIIAN OPAKAPAKA	293.5	1.13	GINDAI (FLOWER SNAP)	20.5	0.08
ONAGA (RED SNAPPER)	56.3	0.22	EHU (RED SNAPPER)	78.5	0.30
REEF FISH	3289.4	12.64	TROLL FISH	19.4	0.07
DOLPHIN (MAHIMAHI)	113.1	0.43	BLUE MARLIN	694.9	2.67
SKIPJACK TUNA	7795.9	29.95	DOGTOOTH TUNA	283.0	1.09
YELLOWFIN TUNA	3642.6	14.00	KAWAKAWA	17.8	0.07
SPINY LOBSTER	359.1	1.38			
TOTAL ALL SPECIES:	26026.5	100.00			

Table II.11.3

TUTUILA FEBRUARY 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BLACK JACK	44.8	0.14	BARRACUDAS	16.5	0.05
BOTTOM FISH	9853.8	31.15	GROUPERS	14.9	0.05
GRAY JOBFISH	72.8	0.23	YELLOW OPAKAPAKA	132.5	0.42
GINDAI (FLOWER SNAP)	7.5	0.02	ONAGA (RED SNAPPER)	162.4	0.51
EHU (RED SNAPPER)	74.7	0.24	REEF FISH	5812.7	18.37
TROLL FISH	264.7	0.84	DOLPHIN (MAHIMAHI)	562.4	1.78
BLUE MARLIN	1278.7	4.04	SAILFISH	264.3	0.84
RAINBOW RUNNER	6.6	0.02	WAHOO	214.8	0.68
SKIPJACK TUNA	9080.4	28.70	DOGTOOTH TUNA	224.0	0.71
YELLOWFIN TUNA	2891.5	9.14	SPINY LOBSTER	658.4	2.08
TOTAL ALL SPECIES:	31638.5	100.00			

Table II.11.4

TUTUILA MARCH 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BOTTOM FISH	15682.0	43.02	GRAY JOBFISH	39.9	0.11
DEEPWATER BOTTOMFISH	539.2	1.48	YELLOW OPAKAPAKA	321.1	0.88
HAWAIIAN OPAKAPAKA	101.5	0.28	GINDAI (FLOWER SNAP)	53.2	0.15
LEHI (SILVERJAW)	151.4	0.42	ONAGA (RED SNAPPER)	1146.3	3.14
EHU (RED SNAPPER)	765.3	2.10	REEF FISH	8274.5	22.70
DOLPHIN (MAHIMAHI)	98.9	0.27	SKIPJACK TUNA	7169.3	19.67
DOGTOOTH TUNA	593.3	1.63	YELLOWFIN TUNA	996.8	2.73
KAWAKAWA	6.6	0.02	SPINY LOBSTER	514.5	1.41
TOTAL ALL SPECIES:	36454.0	100.00			

Table II.11.5

TUTUILA APRIL 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BOTTOM FISH	10285.0	28.62	YELLOW OPAKAPAKA	26.4	0.07
GINDAI (FLOWER SNAP)	30.7	0.09	LEHI (SILVERJAW)	280.7	0.78
ONAGA (RED SNAPPER)	775.1	2.16	EHU (RED SNAPPER)	441.9	1.23
REEF FISH	6435.8	17.91	SQUIRRELFISH	31.8	0.09
DOLPHIN (MAHIMAHI)	406.3	1.13	SKIPJACK TUNA	7934.0	22.08
DOGTOOTH TUNA	248.7	0.69	YELLOWFIN TUNA	8784.5	24.44
SPINY LOBSTER	259.7	0.72			
TOTAL ALL SPECIES:	35940.7	100.00			

Table II.11.6

TUTUILA MAY 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BARRACUDAS	16.8	0.11	SHARKS	505.1	3.18
BOTTOM FISH	5425.9	34.19	YELLOW OPAKAPAKA	6.7	0.04
LEHI (SILVERJAW)	153.2	0.97	ONAGA (RED SNAPPER)	552.2	3.48
EHU (RED SNAPPER)	106.1	0.67	SNAKE MACKEREL	47.1	0.30
REEF FISH	1548.8	9.76	DOLPHIN (MAHIMAHI)	218.9	1.38
WAHOO	255.9	1.61	SKIPJACK TUNA	3723.9	23.46
YELLOWFIN TUNA	3242.4	20.43	SPINY LOBSTER	67.3	0.42
TOTAL ALL SPECIES:	15870.4	100.00			

Table II.11.7

TUTUILA JUNE 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BOTTOM FISH	6301.6	52.22	SNAPPERS	126.3	1.05
DEEPWATER BOTTOMFISH	281.1	2.33	YELLOW OPAKAPAKA	18.2	0.15
HAWAIIAN OPAKAPAKA	6.6	0.05	GINDAI (FLOWER SNAP)	415.1	3.44
LEHI (SILVERJAW)	48.0	0.40	ONAGA (RED SNAPPER)	382.0	3.17
EHU (RED SNAPPER)	210.0	1.74	DOLPHIN (MAHIMAHI)	139.6	1.16
BLUE MARLIN	1163.3	9.64	WAHOO	229.3	1.90
SKIPJACK TUNA	957.3	7.93	YELLOWFIN TUNA	1789.1	14.83
TOTAL ALL SPECIES:	12067.1	100.00			

Table II.11.8

TUTUILA JULY 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
JACKS	318.0	1.14	BLACK JACK	397.1	1.42
BOTTOM FISH	9413.5	33.69	DEEPWATER BOTTOMFISH	210.6	0.75
YELLOW OPAKAPAKA	30.1	0.11	GINDAI (FLOWER SNAP)	41.5	0.15
LEHI (SILVERJAW)	52.8	0.19	ONAGA (RED SNAPPER)	554.0	1.98
EHU (RED SNAPPER)	582.2	2.08	REEF FISH	1961.4	7.02
DOLPHIN (MAHIMAHI)	2325.9	8.33	BLUE MARLIN	379.7	1.36
WAHOO	938.3	3.36	SKIPJACK TUNA	4326.5	15.49
DOGTOOTH TUNA	476.9	1.71	YELLOWFIN TUNA	5929.5	21.22
TOTAL ALL SPECIES:	27938.3	100.00			

Table II.11.9

TUTUILA AUGUST 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BARRACUDAS	37.8	0.12	SHARKS	108.1	0.33
BOTTOM FISH	4931.1	15.10	ONAGA (RED SNAPPER)	296.6	0.91
EHU (RED SNAPPER)	63.9	0.20	REEF FISH	1482.2	4.54
DOLPHIN (MAHIMAHI)	1395.5	4.27	WAHOO	270.1	0.83
SKIPJACK TUNA	20632.8	63.17	YELLOWFIN TUNA	3443.7	10.54
TOTAL ALL SPECIES:	32661.9	100.00			

Table II.11.10

TUTUILA SEPTEMBER 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BOTTOM FISH	4486.7	21.91	DOLPHIN (MAHIMAHI)	4944.3	24.14
WAHOO	71.2	0.35	SKIPJACK TUNA	8064.9	39.38
YELLOWFIN TUNA	2913.8	14.23			
TOTAL ALL SPECIES:	20480.8	100.00			

Table II.11.11

TUTUILA OCTOBER 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BARRACUDAS	19.8	0.07	SHARKS	847.2	3.16
BOTTOM FISH	2700.0	10.06	EHU (RED SNAPPER)	827.2	3.08
DOLPHIN (MAHIMAHI)	1986.0	7.40	BLUE MARLIN	180.5	0.67
WAHOO	97.2	0.36	SKIPJACK TUNA	15842.1	59.03
DOGTOOTH TUNA	61.7	0.23	YELLOWFIN TUNA	4275.4	15.93
TOTAL ALL SPECIES:	26837.0	100.00			

Table II.11.12

TUTUILA NOVEMBER 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BARRACUDAS	345.7	1.37	SHARKS	1712.5	6.80
BOTTOM FISH	2916.2	11.59	EHU (RED SNAPPER)	148.1	0.59
REEF FISH	654.3	2.60	DOLPHIN (MAHIMAHI)	43.8	0.17
RAINBOW RUNNER	118.4	0.47	WAHOO	175.1	0.70
SKIPJACK TUNA	14268.8	56.69	DOGTOOTH TUNA	272.9	1.08
YELLOWFIN TUNA	4064.3	16.15	KAWAKAWA	52.7	0.21
GIANT CLAM	395.1	1.57			
TOTAL ALL SPECIES:	25167.9	100.00			

Table II.11.13

TUTUILA DECEMBER 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
SHARKS	2720.4	8.08	BOTTOM FISH	2525.6	7.50
GRAY JOBFISH	36.0	0.11	EHU (RED SNAPPER)	327.4	0.97
DOLPHIN (MAHIMAHI)	208.6	0.62	RAINBOW RUNNER	65.5	0.19
WAHOO	276.4	0.82	SKIPJACK TUNA	22595.6	67.09
DOGTOOTH TUNA	162.6	0.48	YELLOWFIN TUNA	3410.4	10.13
GIANT CLAM	864.2	2.57			
TOTAL ALL SPECIES:	33680.3	100.00			

Commonwealth of the Northern Mariana Islands

Fishery Statistics 1985 and 1986

COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS
FISHERY STATISTICS
1985 AND 1986

Compiled By

Division of Fish and Wildlife

and the

Western Pacific Fishery Information Network

March 1988

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COMMONWEALTH OF THE NORTHERN MARIANA ISLANDS' FISHERY STATISTICS, 1985 AND 1986

INTRODUCTION

The Commonwealth of the Northern Mariana Islands (CNMI) comprises a string of islands located at about long. 145°E and extending northward from about lat. 14° to 21°N. About 99% of the approximately 21,000 inhabitants of the CNMI live on the three main islands, Saipan (87%), Rota (7%), and Tinian (5%). The Division of Fish and Wildlife (DFW) has been collecting fishery statistics on the commercial fishing fleet of Saipan since the mid-1970's. In 1983, DFW also began collecting information on vessels transshipping tuna out of Tinian. Significant improvements to the data collecting and processing systems were made in 1982 when microcomputer hardware, software, and training were provided by the WPACFIN program. Volume I of this report series provided summary statistics and graphs for 1979-84 data. Volume III contains similar monthly and annual tables and graphs for 1985 and 1986, as well as updates to numerous graphs of trends and seasonality based on all 8 years of data, 1979-86.

The major domestic commercial fishery of the CNMI is a small boat, one-day troll fishery. Most of the boats are 12- to 24-foot outboard-powered, runabout-type vessels; however, a few larger boats are also used. In the past few years, there has been a fairly rapid increase in the number of boats in the CNMI, about 70% of which are used in the commercial fisheries. Although trolling is by far the most common fishing method, many boats are also used for bottom fishing and reef fishing activities. Reef fish are an important component of the local diet and are a significant portion of the total commercial catch. Additionally, an increasing amount of reef fish is being imported from other Pacific islands to meet the local demand. In recent years, several larger boats have started fishing more intensively for bottom fish around the islands north of Saipan. The vast majority of the domestic catch is consumed locally, but there have been some exports of fish to Guam and Hawaii.

Beginning in 1983, fishing vessels from several nations began using the Tinian harbor as a port to off-load tuna catches to large transshipment vessels. The DFW began collecting statistics on these activities in February 1983. From 1983 to 1986, transshipments out of Tinian were 53,000, 114,000, 69,000, and 73,000 metric tons, respectively. None of the vessels involved in the transshipments is CNMI vessels; however, many of them are U.S. registered purse seiners. The proportion of transshipments made by American vessels has declined steadily from over three-fourths in 1983 to less than half in 1986. The number of U.S. vessels making transshipments has also declined from a high of about 40 in 1984 to about 12-14 in 1986.

DATA COLLECTING SYSTEM

The principal method used by DFW to collect domestic commercial fisheries data is a dealer invoicing system, sometimes referred to as a "trip ticket" system. The DFW provides numbered two-part invoices to all purchasers of fresh fishery products, including hotels, restaurants, stores, fish markets, and roadside vendors. Dealers complete an invoice each time they purchase fish directly from fishermen. They keep one copy for their records and provide one copy to DFW. Some advantages of this method of data collection are that it is relatively inexpensive to implement and maintain, nearly complete coverage of the commercial fisheries is fairly easy to accomplish, and DFW can provide feedback to dealers and fishermen to ensure data accuracy and continued cooperation. Disadvantages include a dependence on non-DFW personnel to identify the catch and record the data, the types of data that can be collected are somewhat restricted, education and cooperation of all fish purchasers are required, and only the fish that are actually sold to dealers are recorded and a potentially important portion of the total landings is unrecorded. Since 1982, DFW has tried to minimize these disadvantages as much as possible by maintaining a close working relationship with dealers, by educating and adding new dealers to their list as they enter the business, and by recently implementing a creel survey to help estimate total catch, including recreational and subsistence catch. Data from the creel surveys are not yet available.

The current system collects data from dealers on the island of Saipan, where DFW estimates over 90% of all CNMI commercial landings are made. The DFW further estimates that the proportion of total commercial landings that is recorded in the data base for Saipan since 1983 is over 90%.

Information collected for each commercial purchase of fish from the fishermen includes the following:

Date
Buyer's name (dealer)
Seller's name (fisherman)
Species
Weight (pounds)
Price per pound
Value
Invoice number

All of these data elements are collected for all purchases of fishery products; however, species identification is frequently made only to a group level, especially for reef fish.

DATA PROCESSING SYSTEM

At the beginning of each month, a DFW employee visits each of the dealers on Saipan to obtain the previous month's invoices, resolve problems, and answer any questions the dealer may have. The invoices are returned to the office for an initial visual edit during the coding process, and are then entered into the "Purchase" data base on the microcomputer. After the records are entered, reports are generated to help verify that all data were entered correctly. On a quarterly basis, copies of the data base are sent to the Honolulu Laboratory, where the data are translated into a different format and transferred to the central computer for additional editing and verification before generation of summary reports. These reports and data bases are then ready for use by qualified WPACFIN participants.

DATA REPORTING SYSTEM

After all editing and quality control activities have been accomplished, monthly and annual summary reports by species are generated. Each of the following reports for 1985 and 1986 contains information on the pounds, value, average price per pound, and number of recorded landings for each species or species groups. The number of recorded landings ("RECORDS" in the tables) is a measurement of how many times each species was landed, regardless of the number or weight of the fish in the landing. This statistic is provided to give an indication of the frequency each species is reported. The POUNDS can be divided by the RECORDS for the average weight of each landing. Each monthly report contains a subtotal for the sum of all species for that month, and the December report also includes the annual total. Annual reports contain the total landings for each species and the total recorded landings for all species for the calendar year.

The following species, species groups, and abbreviations are used in the tables and graphs of CNMI's data:

I. Pelagic Management Unit Species (PMUS)

Dolphin (mahimahi)
Marlin
Shortbill spearfish
Sailfish
Wahoo
Sharks

II. Bottomfish Management Unit Species (BMUS)

Jacks (unclassified, but excluding bigeye scad)
Bottom fish (unclassified)
Ehu (red snapper)
Gindai (flower snapper)
Grouper (unclassified)
Kalikali (pink snapper)
Lehi (silverjaw snapper)
Onaga (red or longtail snapper)
Opakapaka (pink snapper)
Uku (gray snapper)
Emperorfish

III. Billfish

Marlin (probably all blue marlin but could also include the rarely landed striped and black marlin)
Shortbill spearfish
Sailfish

IV. Tunas

Tunas (unclassified)
Skipjack tuna
Yellowfin tuna
Dogtooth tuna

V. Other Tuna

The above tunas excluding skipjack and yellowfin tuna

VI. Fisheries Categories

A. Pelagics

All PMUS and tuna species plus the following:
Troll fish (unclassified)
Barracuda
Rainbow runner

B. Bottom Fish

Same as BMUS

C. Reef Fish

Reef fish (unclassified)
Giant wrasse
Rabbitfish (hitting, hitting feda, menahac, and sesjun)
Rudderfish

C. Reef Fish (cont.)

- Squirrelfish
- Parrotfish
- Snapper
- Surgeonfish
- Unicornfish
- Goatfish

D. Other

- Miscellaneous
- Bigeye scad
- Mullet
- Eels
- Milkfish
- Invertebrates (unclassified)
- Crabs (unclassified)
- Coconut crab
- Lobster
- Shrimp
- Octopus
- Squid
- Turtle
- Seaweeds
- Imported

Table III.1.1

CNMI 1985 ANNUAL COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	133	12917.20	23945.45	1.85
JACKS	12	769.84	1066.99	1.39
MULLET	3	100.50	159.30	1.59
BOTTOM FISH	180	17522.84	29615.52	1.69
GINDAI (FLOWER SNAP)	3	166.25	325.63	1.96
GROUPER	22	3368.00	4537.31	1.35
ONAGA (RED SNAPPER)	23	893.75	2424.88	2.71
OPAKAPAKA (PINK SNP)	10	544.95	1190.26	2.18
UKU (GRAY SNAPPER)	3	65.00	162.00	2.49
AMBERJACK	3	108.25	222.11	2.05
REEF FISH	757	90470.73	137259.11	1.52
WRASSE	2	29.50	32.25	1.09
RABBITFISH (HITTING)	157	3060.83	5842.04	1.91
RABBITFISH (MENAHAC)	3	288.50	389.75	1.35
RUDDERFISH (GUILLI)	23	1005.50	1635.61	1.63
EMPEROR (MAFUTE)	92	9341.15	15851.09	1.70
SQUIRRELFISH	9	364.00	602.94	1.66
PARROTFISH	22	1220.25	1897.20	1.55
SURGEONFISH	19	1033.00	1689.07	1.64
UNICORNFISH	15	1014.75	1607.38	1.58
GOATFISH	14	437.75	709.68	1.62
TROLL FISH	18	5166.31	5810.06	1.12
BARRACUDA	22	707.75	673.27	0.95
DOLPHIN (MAHIMAHI)	194	10363.77	10725.91	1.03
MARLIN	6	1488.00	1811.65	1.22
SAILFISH	1	61.50	55.35	0.90
RAINBOW RUNNER	15	516.04	555.21	1.08
WAHOO	196	14600.86	17713.01	1.21
SKIPJACK TUNA	1112	141909.94	142542.65	1.00
DOGTOOTH TUNA	37	2590.85	2856.30	1.10
YELLOWFIN TUNA	212	9972.52	12628.44	1.27
LOBSTER	209	4800.45	14508.98	3.02
OCTOPUS	63	1527.20	2183.29	1.43
** TOTAL **	3590	338427.73	443229.69	

Table III.1.2

CNMI JANUARY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	1	34.00	68.00	2.00
BOTTOM FISH	25	1128.63	1945.23	1.72
GROUPER	1	269.50	269.50	1.00
ONAGA (RED SNAPPER)	3	52.00	113.50	2.18
REEF FISH	67	9157.25	13349.40	1.46
WRASSE	1	24.00	24.00	1.00
RABBITFISH (HITTING)	17	242.75	485.50	2.00
RUDDERFISH (GUILLI)	8	249.25	413.55	1.66
EMPEROR (MAFUTE)	3	182.00	291.20	1.60
SQUIRRELFISH	1	33.00	54.45	1.65
PARROTFISH	7	125.75	200.43	1.59
SURGEONFISH	3	131.00	216.15	1.65
TROLL FISH	2	324.00	486.00	1.50
BARRACUDA	2	211.00	210.85	1.00
DOLPHIN (MAHIMAHI)	56	3393.75	3404.24	1.00
WAHOO	13	1599.60	2244.03	1.40
SKIPJACK TUNA	97	7737.40	7821.90	1.01
DOGTOOTH TUNA	6	371.00	462.00	1.25
YELLOWFIN TUNA	10	465.50	540.25	1.16
LOBSTER	13	142.00	426.00	3.00
OCTOPUS	8	164.25	226.50	1.38
** SUBTOTAL **	344	26037.63	33252.68	

Table III.1.3

CNMI FEBRUARY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MULLET	1	56.50	90.40	1.60
BOTTOM FISH	12	826.25	1427.92	1.73
GROUPER	6	927.50	972.50	1.05
ONAGA (RED SNAPPER)	4	241.25	603.13	2.50
OPAKAPAKA (PINK SNP)	1	45.00	78.75	1.75
REEF FISH	78	8762.25	12449.74	1.42
RABBITFISH (HITTING)	23	276.75	550.00	1.99
RUDDERFISH (GUILLI)	2	69.75	123.25	1.77
EMPEROR (MAFUTE)	10	434.25	726.48	1.67
PARROTFISH	3	189.00	326.35	1.73
SURGEONFISH	3	212.00	360.30	1.70
UNICORNFISH	2	385.00	623.50	1.62
TROLL FISH	1	255.00	382.50	1.50
BARRACUDA	2	70.75	64.47	0.91
DOLPHIN (MAHIMAHI)	48	2624.25	2669.75	1.02
RAINBOW RUNNER	1	11.00	13.20	1.20
WAHOO	12	620.25	714.80	1.15
SKIPJACK TUNA	48	3175.00	3291.84	1.04
DOGTOOTH TUNA	3	313.25	313.25	1.00
YELLOWFIN TUNA	10	530.75	622.85	1.17
LOBSTER	8	77.50	232.50	3.00
OCTOPUS	4	68.25	97.88	1.43
** SUBTOTAL **	282	20171.50	26735.36	

Table III.1.4

CNMI MARCH 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BOTTOM FISH	11	487.30	867.03	1.78
GINDAI (FLOWER SNAP)	1	61.00	106.75	1.75
GROUPER	1	105.00	105.00	1.00
ONAGA (RED SNAPPER)	1	48.50	121.25	2.50
REEF FISH	91	7152.56	11597.38	1.62
RABBITFISH (HITTING)	20	413.25	784.76	1.90
RUDDERFISH (GUILLI)	2	131.00	216.15	1.65
EMPEROR (MAFUTE)	4	145.00	245.10	1.69
PARROTFISH	1	23.00	37.95	1.65
SURGEONFISH	3	120.75	199.24	1.65
GOATFISH	2	70.00	112.90	1.61
TROLL FISH	1	100.00	100.00	1.00
BARRACUDA	1	15.00	15.00	1.00
DOLPHIN (MAHIMAHI)	26	1722.50	1802.40	1.05
WAHOO	5	106.00	130.25	1.23
SKIPJACK TUNA	61	5336.00	5483.70	1.03
DOGTOOTH TUNA	2	105.00	146.50	1.40
YELLOWFIN TUNA	12	625.25	797.29	1.28
LOBSTER	6	57.50	172.50	3.00
OCTOPUS	2	46.25	69.38	1.50
** SUBTOTAL **	253	16870.86	23110.53	

Table III.1.5

CNMI APRIL 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	5	474.00	854.85	1.80
JACKS	4	64.50	96.75	1.50
BOTTOM FISH	11	594.00	972.83	1.64
GROUPER	2	464.50	617.13	1.33
ONAGA (RED SNAPPER)	1	38.00	95.00	2.50
OPAKAPAKA (PINK SNP)	1	54.50	95.38	1.75
REEF FISH	105	11180.84	16010.82	1.43
RABBITFISH (HITTING)	13	210.00	420.00	2.00
RABBITFISH (MENAHAC)	1	45.00	90.00	2.00
EMPEROR (MAFUTE)	13	1163.75	2007.56	1.73
SQUIRRELFISH	1	23.00	36.80	1.60
PARROTFISH	1	16.25	24.38	1.50
SURGEONFISH	4	86.75	143.13	1.65
UNICORNFISH	3	109.75	166.88	1.52
GOATFISH	1	37.50	56.25	1.50
BARRACUDA	3	41.00	33.50	0.82
DOLPHIN (MAHIMAHI)	36	1775.50	1827.28	1.03
RAINBOW RUNNER	5	75.50	82.40	1.09
WAHOO	20	968.94	1190.29	1.23
SKIPJACK TUNA	143	17689.07	18275.15	1.03
DOGTOOTH TUNA	3	47.00	47.90	1.02
YELLOWFIN TUNA	18	479.75	628.14	1.31
LOBSTER	35	618.25	1819.01	2.94
OCTOPUS	2	78.50	113.25	1.44
** SUBTOTAL **	431	36335.85	45704.68	

Table III.1.6

CNMI MAY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	3	391.50	664.43	1.70
JACKS	1	175.00	140.00	0.80
MULLET	1	15.00	22.50	1.50
BOTTOM FISH	16	717.00	1223.23	1.71
ONAGA (RED SNAPPER)	1	22.00	38.50	1.75
REEF FISH	66	6679.50	10447.20	1.56
RABBITFISH (HITTING)	10	213.83	378.86	1.77
RABBITFISH (MENAHAC)	2	243.50	299.75	1.23
RUDDERFISH (GUILLI)	3	220.00	330.00	1.50
EMPEROR (MAFUTE)	2	103.25	177.38	1.72
PARROTFISH	1	39.75	59.63	1.50
UNICORNFISH	2	59.50	89.25	1.50
GOATFISH	2	33.25	49.88	1.50
DOLPHIN (MAHIMAHI)	3	57.00	53.60	0.94
RAINBOW RUNNER	2	33.00	39.25	1.19
WAHOO	7	191.35	255.90	1.34
SKIPJACK TUNA	101	15092.65	13866.27	0.92
DOGTOOTH TUNA	2	322.00	352.50	1.09
YELLOWFIN TUNA	11	583.00	712.48	1.22
LOBSTER	26	577.25	1720.76	2.98
OCTOPUS	3	139.75	193.63	1.39
** SUBTOTAL **	265	25909.08	31115.00	

Table III.1.7

CNMI JUNE 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	6	347.00	655.76	1.89
JACKS	3	90.50	145.00	1.60
BOTTOM FISH	16	2086.25	3768.08	1.81
GROUPER	4	384.00	530.75	1.38
ONAGA (RED SNAPPER)	3	155.50	499.75	3.21
UKU (GRAY SNAPPER)	1	13.00	22.75	1.75
REEF FISH	49	4869.27	7618.58	1.56
WRASSE	1	5.50	8.25	1.50
RABBITFISH (HITTING)	4	125.00	219.25	1.75
RUDDERFISH (GUILLI)	1	41.75	62.63	1.50
EMPEROR (MAFUTE)	11	1829.50	2987.91	1.63
SQUIRRELFISH	1	21.00	31.50	1.50
PARROTFISH	1	89.25	133.88	1.50
UNICORNFISH	1	34.00	54.40	1.60
GOATFISH	2	30.00	51.00	1.70
BARRACUDA	1	17.00	17.00	1.00
DOLPHIN (MAHIMAHI)	5	93.00	123.15	1.32
MARLIN	3	1039.00	1219.00	1.17
RAINBOW RUNNER	2	75.50	75.50	1.00
WAHOO	9	375.75	532.94	1.42
SKIPJACK TUNA	117	17042.50	15767.14	0.93
DOGTOOTH TUNA	6	294.00	304.50	1.04
YELLOWFIN TUNA	15	494.20	643.67	1.30
LOBSTER	25	664.00	2116.48	3.19
OCTOPUS	4	85.00	117.00	1.38
** SUBTOTAL **	291	30301.47	37705.87	

Table III.1.8

CNMI JULY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	14	1793.75	3191.64	1.78
BOTTOM FISH	22	2311.50	4099.38	1.77
ONAGA (RED SNAPPER)	2	93.00	268.50	2.89
OPAKAPAKA (PINK SNP)	1	15.95	39.88	2.50
AMBERJACK	1	48.25	79.61	1.65
REEF FISH	53	4712.00	7301.20	1.55
RABBITFISH (HITTING)	3	56.75	114.27	2.01
EMPEROR (MAFUTE)	7	483.00	806.51	1.67
SQUIRRELFISH	1	13.25	19.88	1.50
PARROTFISH	1	44.25	66.38	1.50
SURGEONFISH	1	15.00	24.75	1.65
UNICORNFISH	1	35.50	53.25	1.50
GOATFISH	1	46.00	73.60	1.60
BARRACUDA	2	44.00	41.70	0.95
DOLPHIN (MAHIMAHI)	2	52.50	62.50	1.19
MARLIN	1	218.00	327.00	1.50
WAHOO	12	1002.50	1175.25	1.17
SKIPJACK TUNA	92	10843.20	10827.47	1.00
DOGTOOTH TUNA	5	471.00	518.00	1.10
YELLOWFIN TUNA	25	1060.55	1322.21	1.25
LOBSTER	20	555.25	1657.13	2.98
OCTOPUS	7	213.75	303.69	1.42
** SUBTOTAL **	274	24128.95	32373.80	

Table III.1.9

CNMI AUGUST 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	25	2310.93	4178.26	1.81
JACKS	2	254.84	407.74	1.60
BOTTOM FISH	16	1439.61	2515.81	1.75
ONAGA (RED SNAPPER)	2	45.50	136.50	3.00
OPAKAPAKA (PINK SNP)	6	332.50	733.75	2.21
UKU (GRAY SNAPPER)	2	52.00	139.25	2.68
AMBERJACK	2	60.00	142.50	2.38
REEF FISH	46	7122.68	11069.68	1.55
RABBITFISH (HITTING)	9	165.50	319.80	1.93
EMPEROR (MAFUTE)	7	324.00	512.45	1.58
GOATFISH	1	55.00	88.00	1.60
BARRACUDA	4	110.50	116.50	1.05
MARLIN	1	132.00	132.00	1.00
RAINBOW RUNNER	1	3.25	3.25	1.00
WAHOO	24	1745.84	2110.93	1.21
SKIPJACK TUNA	123	18650.37	19125.18	1.03
DOGTOOTH TUNA	4	93.10	137.15	1.47
YELLOWFIN TUNA	21	1809.29	2377.32	1.31
LOBSTER	21	753.20	2281.60	3.03
OCTOPUS	11	287.00	410.25	1.43
** SUBTOTAL **	328	35747.11	46937.92	

Table III.1.10

CNMI SEPTEMBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	30	2584.00	4735.55	1.83
MULLET	1	29.00	46.40	1.60
BOTTOM FISH	25	2336.80	4025.21	1.72
OPAKAPAKA (PINK SNP)	1	97.00	242.50	2.50
REEF FISH	47	5835.75	9077.27	1.56
RABBITFISH (HITTING)	16	255.25	486.50	1.91
RUDDERFISH (GUILLI)	1	23.00	36.80	1.60
EMPEROR (MAFUTE)	14	1038.15	1800.02	1.73
SQUIRRELFISH	2	153.00	249.00	1.63
GOATFISH	2	83.00	137.00	1.65
BARRACUDA	2	47.50	50.85	1.07
RAINBOW RUNNER	2	272.93	272.93	1.00
WAHOO	31	1843.79	2312.56	1.25
SKIPJACK TUNA	80	8902.80	9215.04	1.04
DOGTOOTH TUNA	2	87.50	87.50	1.00
YELLOWFIN TUNA	28	923.50	1175.93	1.27
LOBSTER	12	349.50	1055.50	3.02
OCTOPUS	12	206.50	309.76	1.50
** SUBTOTAL **	308	25068.97	35316.32	

Table III.1.11

CNMI OCTOBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	19	1839.27	3444.21	1.87
BOTTOM FISH	9	1819.50	2932.05	1.61
GROUPER	4	491.00	616.30	1.26
ONAGA (RED SNAPPER)	1	17.50	61.25	3.50
REEF FISH	49	10102.85	15493.07	1.53
RABBITFISH (HITTING)	18	401.25	756.10	1.88
RUDDERFISH (GUILLI)	2	123.75	192.63	1.56
EMPEROR (MAFUTE)	8	860.50	1581.30	1.84
PARROTFISH	2	275.00	412.50	1.50
SURGEONFISH	2	152.50	228.75	1.50
UNICORNFISH	2	136.00	204.00	1.50
TROLL FISH	4	458.81	641.31	1.40
DOLPHIN (MAHIMAHI)	4	170.70	180.05	1.05
MARLIN	1	99.00	133.65	1.35
RAINBOW RUNNER	1	31.00	46.50	1.50
WAHOO	34	3239.49	3771.79	1.16
SKIPJACK TUNA	97	14491.27	14937.94	1.03
DOGTOOTH TUNA	2	358.00	358.00	1.00
YELLOWFIN TUNA	26	1025.55	1344.11	1.31
LOBSTER	18	440.25	1322.25	3.00
OCTOPUS	4	88.98	129.79	1.46
** SUBTOTAL **	307	36622.17	48787.55	

Table III.1.12

CNMI NOVEMBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	14	1008.75	1912.60	1.90
JACKS	2	185.00	277.50	1.50
BOTTOM FISH	8	1768.00	2711.25	1.53
GINDAI (FLOWER SNAP)	1	61.00	152.50	2.50
GROUPER	3	711.50	1399.88	1.97
ONAGA (RED SNAPPER)	3	113.50	340.50	3.00
REEF FISH	50	9846.55	15052.16	1.53
RABBITFISH (HITTING)	16	528.00	1010.25	1.91
RUDDERFISH (GUILLI)	2	50.00	87.25	1.75
EMPEROR (MAFUTE)	9	1434.75	2330.83	1.62
SQUIRRELFISH	2	90.75	158.81	1.75
PARROTFISH	2	338.00	507.00	1.50
SURGEONFISH	2	267.00	432.75	1.62
UNICORNFISH	3	210.00	332.85	1.59
GOATFISH	2	58.00	97.30	1.68
TROLL FISH	4	557.00	625.50	1.12
BARRACUDA	2	62.00	49.60	0.80
DOLPHIN (MAHIMAHI)	6	178.25	249.73	1.40
SAILFISH	1	61.50	55.35	0.90
WAHOO	19	1656.15	1817.95	1.10
SKIPJACK TUNA	86	12759.50	13283.05	1.04
DOGTOOTH TUNA	1	94.00	94.00	1.00
YELLOWFIN TUNA	18	1184.20	1460.40	1.23
LOBSTER	18	525.50	1584.50	3.02
OCTOPUS	5	124.97	182.16	1.46
** SUBTOTAL **	279	33873.87	46205.67	

Table III.1.13

CNMI DECEMBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	16	2134.00	4240.15	1.99
BOTTOM FISH	9	2008.00	3127.50	1.56
GINDAI (FLOWER SNAP)	1	44.25	66.38	1.50
GROUPER	1	15.00	26.25	1.75
ONAGA (RED SNAPPER)	2	67.00	147.00	2.19
REEF FISH	56	5049.23	7792.61	1.54
RABBITFISH (HITTING)	8	172.50	316.75	1.84
RUDDERFISH (GUILLI)	2	97.00	173.35	1.79
EMPEROR (MAFUTE)	4	1343.00	2384.35	1.78
SQUIRRELFISH	1	30.00	52.50	1.75
PARROTFISH	3	80.00	128.70	1.61
SURGEONFISH	1	48.00	84.00	1.75
UNICORNFISH	1	45.00	83.25	1.85
GOATFISH	1	25.00	43.75	1.75
TROLL FISH	6	3471.50	3574.75	1.03
BARRACUDA	3	89.00	73.80	0.83
DOLPHIN (MAHIMAHI)	8	296.32	353.21	1.19
RAINBOW RUNNER	1	13.86	22.18	1.60
WAHOO	10	1251.20	1456.32	1.16
SKIPJACK TUNA	67	10190.18	10647.97	1.04
DOGTOOTH TUNA	1	35.00	35.00	1.00
YELLOWFIN TUNA	18	790.98	1003.79	1.27
LOBSTER	7	40.25	120.75	3.00
OCTOPUS	1	24.00	30.00	1.25
** SUBTOTAL **	228	27360.27	35984.31	
** TOTAL **	3590	338427.73	443229.69	

Figure III.1.1

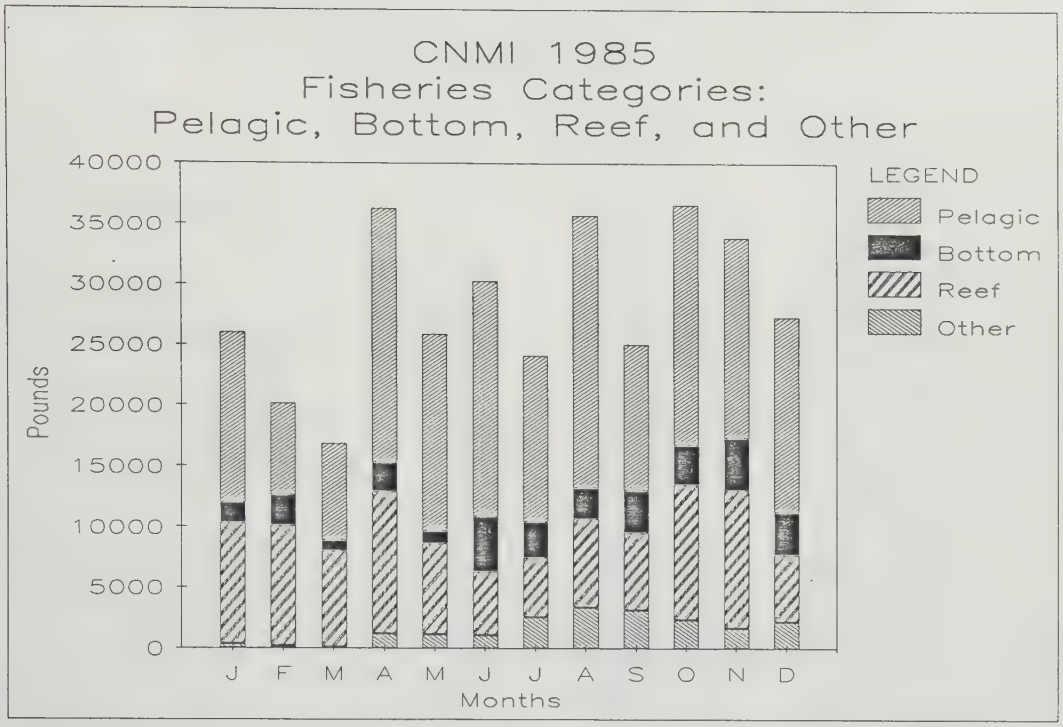


Figure III.1.2

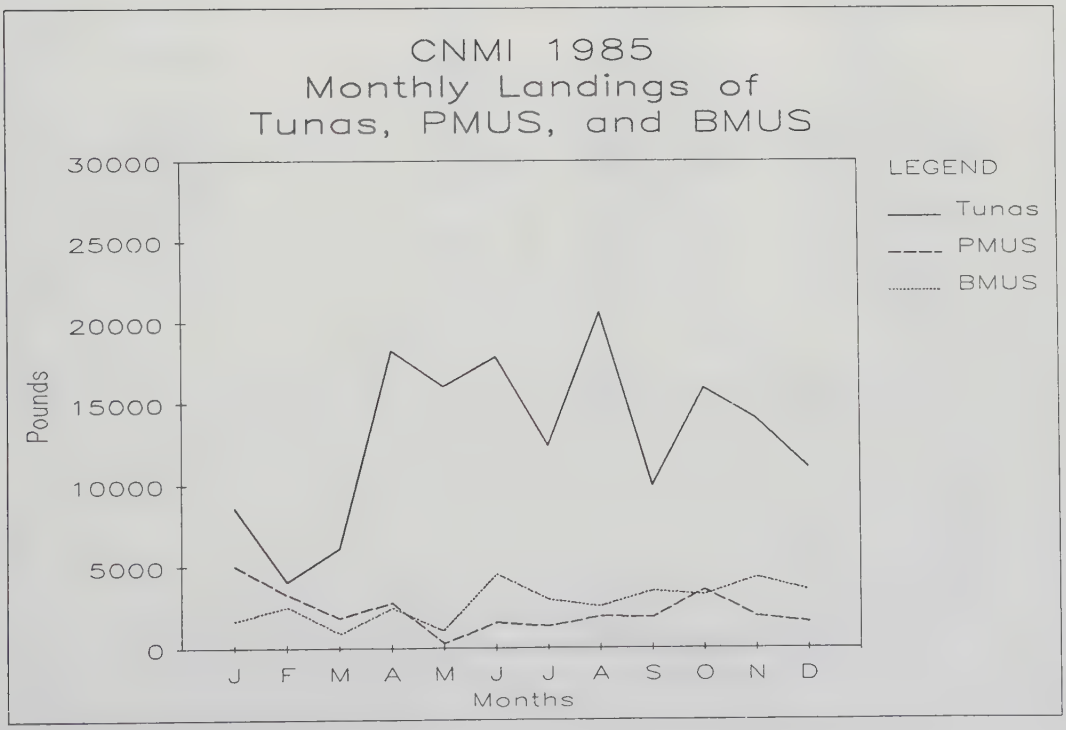


Figure III.1.3

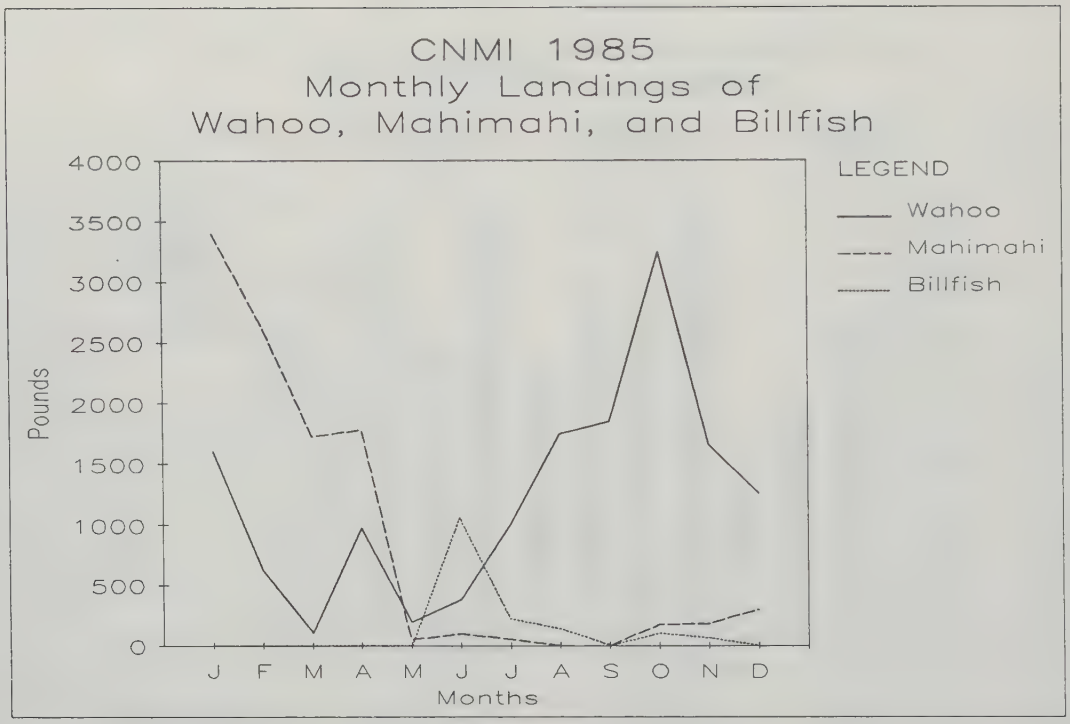


Figure III.1.4

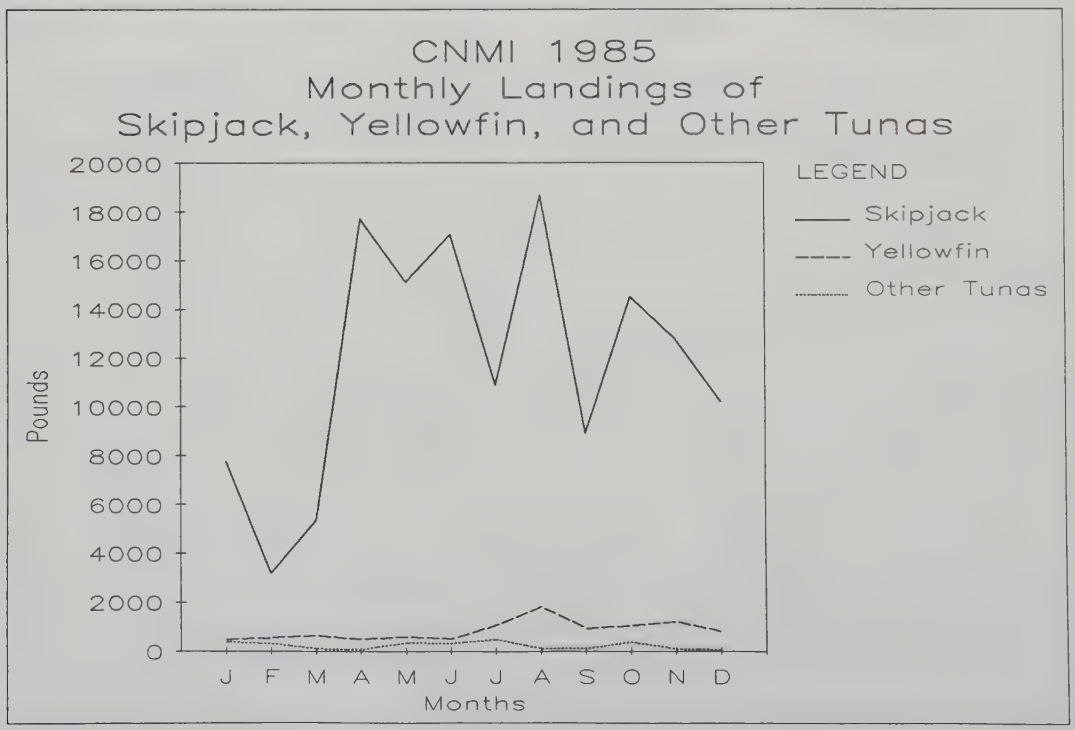


Table III.2.1

CNMI 1986 ANNUAL COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
ASSORTED	20	2801.75	5715.76	2.04
BIGEYE SCAD (ATULAI)	327	33728.18	63012.17	1.87
JACKS	14	654.50	1255.73	1.92
MULLET	27	1192.75	1939.99	1.63
BOTTOM FISH	125	11622.09	20529.67	1.77
GINDAI (FLOWER SNAP)	15	698.96	1623.15	2.32
GROUPER	23	1195.00	2326.75	1.95
ONAGA (RED SNAPPER)	32	1278.27	3852.76	3.01
OPAKAPAKA (PINK SNP)	14	789.80	1632.60	2.07
UKU (GRAY SNAPPER)	3	290.50	859.25	2.96
REEF FISH	736	71813.39	111189.28	1.55
WRASSE	1	20.75	31.13	1.50
RABBITFISH (HITTING)	178	5816.81	10879.26	1.87
RUDDERFISH (GUILLI)	30	2488.25	3856.38	1.55
EMPEROR (MAFUTE)	71	7400.05	12998.74	1.76
SQUIRRELFISH	26	1745.50	2842.56	1.63
PARROTFISH	62	5578.75	8710.03	1.56
SURGEONFISH	51	4751.50	7351.60	1.55
UNICORNFISH	26	1666.25	2598.73	1.56
GOATFISH	22	674.25	1082.67	1.61
TROLL FISH	12	1387.26	1692.69	1.22
BARRACUDA	6	102.00	101.70	1.00
DOLPHIN (MAHIMAHI)	155	14236.80	16632.51	1.17
MARLIN	18	2123.00	2223.55	1.05
SAILFISH	2	91.00	113.75	1.25
RAINBOW RUNNER	22	654.99	842.49	1.29
WAHOO	108	7249.87	9420.74	1.30
SKIPJACK TUNA	1209	203489.79	213195.48	1.05
DOGTOOTH TUNA	63	3099.48	4240.55	1.37
YELLOWFIN TUNA	242	13533.29	18549.44	1.37
INVERTEBRATES	5	212.00	424.00	2.00
LOBSTER	203	6418.22	21072.42	3.28
OCTOPUS	31	1206.50	1846.37	1.53
SQUID	1	13.00	32.50	2.50
** TOTAL **	3880	410024.50	554676.40	

Table III.2.2

CNMI JANUARY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
ASSORTED	3	202.25	404.50	2.00
BIGEYE SCAD (ATULAI)	50	6873.15	12692.59	1.85
MULLET	1	26.50	42.40	1.60
BOTTOM FISH	1	47.00	82.25	1.75
GROUPER	2	52.00	118.75	2.28
REEF FISH	58	4743.06	7177.07	1.51
WRASSE	1	20.75	31.13	1.50
RABBITFISH (HITTING)	23	384.05	827.70	2.16
RUDDERFISH (GUILLI)	2	49.00	82.25	1.68
EMPEROR (MAFUTE)	6	1676.50	2970.40	1.77
SQUIRRELFISH	1	20.00	35.00	1.75
PARROTFISH	1	50.00	87.50	1.75
SURGEONFISH	1	51.00	89.25	1.75
GOATFISH	2	35.00	61.25	1.75
DOLPHIN (MAHIMAHI)	19	1433.75	1817.33	1.27
WAHOO	7	658.00	726.00	1.10
SKIPJACK TUNA	87	12356.40	12906.93	1.04
DOGTOOTH TUNA	3	154.50	182.75	1.18
YELLOWFIN TUNA	21	1015.60	1365.16	1.34
LOBSTER	7	44.97	134.91	3.00
OCTOPUS	1	2.23	2.79	1.25
** SUBTOTAL **	297	29895.71	41837.91	

Table III.2.3

CNMI FEBRUARY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	45	5024.33	9507.03	1.89
MULLET	1	26.50	42.40	1.60
BOTTOM FISH	8	872.00	1403.50	1.61
GROUPER	1	24.00	42.00	1.75
REEF FISH	84	7722.73	11502.94	1.49
RABBITFISH (HITTING)	20	824.60	1816.20	2.20
EMPEROR (MAFUTE)	5	2033.50	3372.98	1.66
SQUIRRELFISH	1	25.00	43.75	1.75
PARROTFISH	2	341.00	596.75	1.75
SURGEONFISH	7	763.00	1195.00	1.57
UNICORNFISH	1	50.00	90.00	1.80
GOATFISH	1	23.00	40.25	1.75
TROLL FISH	2	303.00	332.40	1.10
BARRACUDA	1	30.00	30.00	1.00
DOLPHIN (MAHIMAHI)	46	5780.15	6647.01	1.15
MARLIN	1	232.00	255.20	1.10
RAINBOW RUNNER	1	35.00	31.50	0.90
WAHOO	12	1372.47	1617.13	1.18
SKIPJACK TUNA	89	14043.50	15135.68	1.08
DOGTOOTH TUNA	5	166.57	250.75	1.51
YELLOWFIN TUNA	17	847.70	1203.91	1.42
LOBSTER	11	466.64	1532.92	3.29
OCTOPUS	1	63.00	78.75	1.25
** SUBTOTAL **	362	41069.69	56768.05	

Table III.2.4

CNMI MARCH 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	33	3255.46	6410.81	1.97
MULLET	1	20.00	35.00	1.75
BOTTOM FISH	5	256.25	419.83	1.64
GINDAI (FLOWER SNAP)	1	24.00	36.00	1.50
GROUPER	1	217.00	542.50	2.50
ONAGA (RED SNAPPER)	1	36.00	117.00	3.25
OPAKAPAKA (PINK SNP)	1	70.00	122.50	1.75
REEF FISH	74	5939.85	8929.26	1.50
RABBITFISH (HITTING)	17	381.83	768.66	2.01
RUDDERFISH (GUILLI)	3	449.00	690.00	1.54
EMPEROR (MAFUTE)	5	1312.00	2489.20	1.90
SQUIRRELFISH	2	75.00	119.25	1.59
PARROTFISH	2	216.00	334.00	1.55
SURGEONFISH	7	849.00	1290.50	1.52
UNICORNFISH	1	49.00	88.20	1.80
GOATFISH	2	42.00	65.50	1.56
TROLL FISH	4	562.76	619.04	1.10
BARRACUDA	2	16.00	12.80	0.80
DOLPHIN (MAHIMAHI)	31	3650.81	3980.98	1.09
MARLIN	3	170.00	199.50	1.17
RAINBOW RUNNER	3	147.00	187.50	1.28
WAHOO	22	2227.93	3035.33	1.36
SKIPJACK TUNA	88	15851.24	16381.42	1.03
DOGTOOTH TUNA	6	181.74	269.38	1.48
YELLOWFIN TUNA	20	841.50	1109.64	1.32
LOBSTER	2	26.50	79.50	3.00
** SUBTOTAL **	337	36867.87	48333.30	

Table III.2.5

CNMI APRIL 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
ASSORTED	5	1475.00	2762.76	1.87
BIGEYE SCAD (ATULAI)	39	3078.16	5827.64	1.89
MULLET	1	49.00	73.50	1.50
BOTTOM FISH	3	516.75	908.50	1.76
GINDAI (FLOWER SNAP)	1	100.00	250.00	2.50
GROUPER	1	10.00	17.50	1.75
REEF FISH	52	6041.94	9459.80	1.57
RABBITFISH (HITTING)	11	863.00	1367.60	1.58
RUDDERFISH (GUILLI)	4	499.00	754.50	1.51
EMPEROR (MAFUTE)	5	244.25	393.18	1.61
PARROTFISH	3	110.00	191.25	1.74
SURGEONFISH	3	311.00	485.75	1.56
UNICORNFISH	3	475.00	721.20	1.52
GOATFISH	2	99.00	148.50	1.50
TROLL FISH	1	234.00	351.00	1.50
DOLPHIN (MAHIMAHI)	36	2384.15	2947.19	1.24
MARLIN	1	45.00	45.00	1.00
WAHOO	10	563.60	783.30	1.39
SKIPJACK TUNA	111	21023.91	22281.99	1.06
DOGTOOTH TUNA	5	281.98	391.13	1.39
YELLOWFIN TUNA	28	1111.41	1376.96	1.24
INVERTEBRATES	1	32.00	64.00	2.00
LOBSTER	21	705.00	3046.40	4.32
** SUBTOTAL **	347	40253.15	54648.65	

Table III.2.6

CNMI MAY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	34	2784.25	5372.59	1.93
JACKS	1	52.00	78.00	1.50
MULLET	2	176.00	273.75	1.56
BOTTOM FISH	6	209.00	357.01	1.71
GROUPER	2	69.00	146.75	2.13
ONAGA (RED SNAPPER)	4	248.75	652.44	2.62
OPAKAPAKA (PINK SNP)	2	69.00	132.20	1.92
REEF FISH	57	6346.00	9891.18	1.56
RABBITFISH (HITTING)	6	219.00	434.00	1.98
RUDDERFISH (GUILLI)	4	364.75	553.73	1.52
EMPEROR (MAFUTE)	5	119.75	191.34	1.60
SQUIRRELFISH	2	325.00	628.75	1.93
PARROTFISH	9	913.50	1424.90	1.56
SURGEONFISH	3	339.50	532.75	1.57
UNICORNFISH	3	203.00	309.75	1.53
GOATFISH	3	68.50	104.00	1.52
TROLL FISH	2	115.50	173.25	1.50
DOLPHIN (MAHIMAHI)	12	611.80	785.96	1.28
MARLIN	3	376.00	403.50	1.07
RAINBOW RUNNER	3	78.00	94.00	1.21
WAHOO	10	414.10	557.25	1.35
SKIPJACK TUNA	99	17219.65	18232.80	1.06
DOGTOOTH TUNA	4	354.08	519.71	1.47
YELLOWFIN TUNA	18	414.04	600.83	1.45
LOBSTER	32	1262.25	3981.23	3.15
OCTOPUS	1	5.25	6.56	1.25
** SUBTOTAL **	327	33357.67	46438.23	

Table III.2.7

CNMI JUNE 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
ASSORTED	1	280.00	546.00	1.95
BIGEYE SCAD (ATULAI)	31	2959.50	5431.26	1.84
JACKS	1	29.50	73.75	2.50
MULLET	3	111.00	185.25	1.67
BOTTOM FISH	18	1876.80	3256.13	1.73
GROUPER	2	75.00	174.75	2.33
ONAGA (RED SNAPPER)	3	177.50	602.25	3.39
OPAKAPAKA (PINK SNP)	2	127.00	268.90	2.12
UKU (GRAY SNAPPER)	1	220.00	660.00	3.00
REEF FISH	52	5052.56	7925.95	1.57
RABBITFISH (HITTING)	10	407.00	657.00	1.61
RUDDERFISH (GUILLI)	4	515.00	778.80	1.51
EMPEROR (MAFUTE)	7	315.50	561.28	1.78
SQUIRRELFISH	3	210.50	339.50	1.61
PARROTFISH	4	391.00	592.75	1.52
SURGEONFISH	1	35.00	61.25	1.75
UNICORNFISH	1	16.00	28.00	1.75
GOATFISH	4	118.75	202.98	1.71
TROLL FISH	1	50.00	50.00	1.00
BARRACUDA	1	10.00	16.50	1.65
DOLPHIN (MAHIMAHI)	1	19.14	25.84	1.35
MARLIN	3	409.00	471.50	1.15
RAINBOW RUNNER	2	28.20	36.12	1.28
WAHOO	12	361.38	500.63	1.39
SKIPJACK TUNA	123	19554.00	20735.90	1.06
DOGTOOTH TUNA	8	425.50	609.42	1.43
YELLOWFIN TUNA	12	328.00	475.50	1.45
LOBSTER	27	691.65	2125.45	3.07
SQUID	1	13.00	32.50	2.50
** SUBTOTAL **	339	34807.48	47425.16	

Table III.2.8

CNMI JULY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
ASSORTED	7	434.00	1047.75	2.41
BIGEYE SCAD (ATULAI)	16	1656.25	3021.36	1.82
MULLET	1	32.00	48.00	1.50
BOTTOM FISH	26	1898.63	3483.08	1.83
GINDAI (FLOWER SNAP)	4	212.96	479.40	2.25
GROUPER	4	194.00	392.75	2.02
ONAGA (RED SNAPPER)	10	356.02	1064.57	2.99
OPAKAPAKA (PINK SNP)	6	333.80	756.50	2.27
UKU (GRAY SNAPPER)	2	70.50	199.25	2.83
REEF FISH	83	7609.68	12003.39	1.58
RABBITFISH (HITTING)	18	462.95	783.32	1.69
RUDDERFISH (GUILLI)	3	228.50	356.50	1.56
EMPEROR (MAFUTE)	7	220.30	358.60	1.63
SQUIRRELFISH	1	25.00	43.75	1.75
PARROTFISH	5	357.50	559.55	1.57
SURGEONFISH	2	103.00	174.25	1.69
UNICORNFISH	2	60.25	92.60	1.54
GOATFISH	2	170.00	267.75	1.58
TROLL FISH	1	90.00	135.00	1.50
MARLIN	1	131.00	98.25	0.75
SAILFISH	1	26.00	26.00	1.00
RAINBOW RUNNER	2	98.16	154.46	1.57
WAHOO	3	62.00	72.00	1.16
SKIPJACK TUNA	137	23606.60	24612.78	1.04
DOGTOOTH TUNA	8	381.18	539.77	1.42
YELLOWFIN TUNA	17	731.20	972.52	1.33
LOBSTER	30	1065.91	3327.76	3.12
OCTOPUS	1	62.00	93.00	1.50
** SUBTOTAL **	400	40679.39	55163.91	

Table III.2.9

CNMI AUGUST 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
ASSORTED	2	197.00	441.50	2.24
BIGEYE SCAD (ATULAI)	24	2165.18	3969.60	1.83
MULLET	7	278.75	469.81	1.69
BOTTOM FISH	13	1168.59	2189.73	1.87
GINDAI (FLOWER SNAP)	2	165.00	395.00	2.39
GROUPER	3	212.00	235.00	1.11
ONAGA (RED SNAPPER)	3	153.00	492.25	3.22
REEF FISH	52	5071.88	7902.01	1.56
RABBITFISH (HITTING)	6	229.13	454.36	1.98
RUDDERFISH (GUILLI)	3	109.00	181.60	1.67
EMPEROR (MAFUTE)	5	239.25	440.64	1.84
SQUIRRELFISH	4	127.50	205.10	1.61
PARROTFISH	8	863.50	1320.95	1.53
SURGEONFISH	4	229.00	357.25	1.56
UNICORNFISH	4	300.25	452.30	1.51
GOATFISH	2	52.25	86.30	1.65
MARLIN	3	343.00	333.60	0.97
RAINBOW RUNNER	4	83.08	107.33	1.29
WAHOO	4	178.27	248.35	1.39
SKIPJACK TUNA	89	13366.54	13746.04	1.03
DOGTOOTH TUNA	7	462.18	641.69	1.39
YELLOWFIN TUNA	26	3358.89	4568.75	1.36
INVERTEBRATES	3	127.50	255.00	2.00
LOBSTER	34	1043.70	3292.70	3.15
OCTOPUS	3	127.08	195.00	1.53
** SUBTOTAL **	315	30651.52	42981.86	

Table III.2.10

CNMI SEPTEMBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
ASSORTED	2	213.50	513.25	2.40
BIGEYE SCAD (ATULAI)	13	1863.00	3345.96	1.80
MULLET	8	408.00	656.13	1.61
BOTTOM FISH	13	832.25	1457.00	1.75
GINDAI (FLOWER SNAP)	1	63.00	110.25	1.75
GROUPER	1	39.00	68.25	1.75
REEF FISH	54	5565.85	8723.34	1.57
RABBITFISH (HITTING)	6	364.00	603.50	1.66
RUDDERFISH (GUILLI)	3	109.00	181.60	1.67
EMPEROR (MAFUTE)	5	140.50	221.85	1.58
SQUIRRELFISH	5	318.25	488.58	1.54
PARROTFISH	11	816.75	1256.88	1.54
SURGEONFISH	8	699.00	1062.45	1.52
UNICORNFISH	5	275.50	430.20	1.56
GOATFISH	1	13.00	22.75	1.75
RAINBOW RUNNER	4	108.55	147.08	1.35
WAHOO	2	54.25	83.80	1.54
SKIPJACK TUNA	119	20452.40	21001.64	1.03
DOGTOOTH TUNA	4	107.00	141.40	1.32
YELLOWFIN TUNA	21	1293.15	1919.74	1.48
INVERTEBRATES	1	52.50	105.00	2.00
LOBSTER	22	703.52	2133.06	3.03
OCTOPUS	6	282.17	394.51	1.40
** SUBTOTAL **	315	34774.14	45068.22	

Table III.2.11

CNMI OCTOBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	23	2135.40	3773.70	1.77
JACKS	2	91.00	155.00	1.70
MULLET	1	40.00	70.00	1.75
BOTTOM FISH	16	1729.00	3176.05	1.84
GINDAI (FLOWER SNAP)	4	87.00	266.50	3.06
GROUPER	4	239.00	468.25	1.96
ONAGA (RED SNAPPER)	7	181.00	571.75	3.16
OPAKAPAKA (PINK SNP)	2	125.00	242.00	1.94
REEF FISH	64	6236.67	9833.60	1.58
RABBITFISH (HITTING)	21	726.14	1321.70	1.82
RUDDERFISH (GUILLI)	2	102.00	172.40	1.69
EMPEROR (MAFUTE)	11	411.50	716.32	1.74
SQUIRRELFISH	1	200.00	300.00	1.50
PARROTFISH	8	838.00	1298.85	1.55
SURGEONFISH	8	444.00	694.15	1.56
UNICORNFISH	3	168.00	277.60	1.65
TROLL FISH	1	32.00	32.00	1.00
DOLPHIN (MAHIMAHI)	4	218.50	260.00	1.19
MARLIN	3	417.00	417.00	1.00
RAINBOW RUNNER	1	31.00	31.00	1.00
WAHOO	12	561.62	745.15	1.33
SKIPJACK TUNA	122	21556.55	22132.94	1.03
DOGTOOTH TUNA	6	327.25	392.55	1.20
YELLOWFIN TUNA	31	1805.30	2304.15	1.28
LOBSTER	4	73.71	212.63	2.88
OCTOPUS	6	352.68	536.52	1.52
** SUBTOTAL **	367	39129.32	50401.81	

Table III.2.12

CNMI NOVEMBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

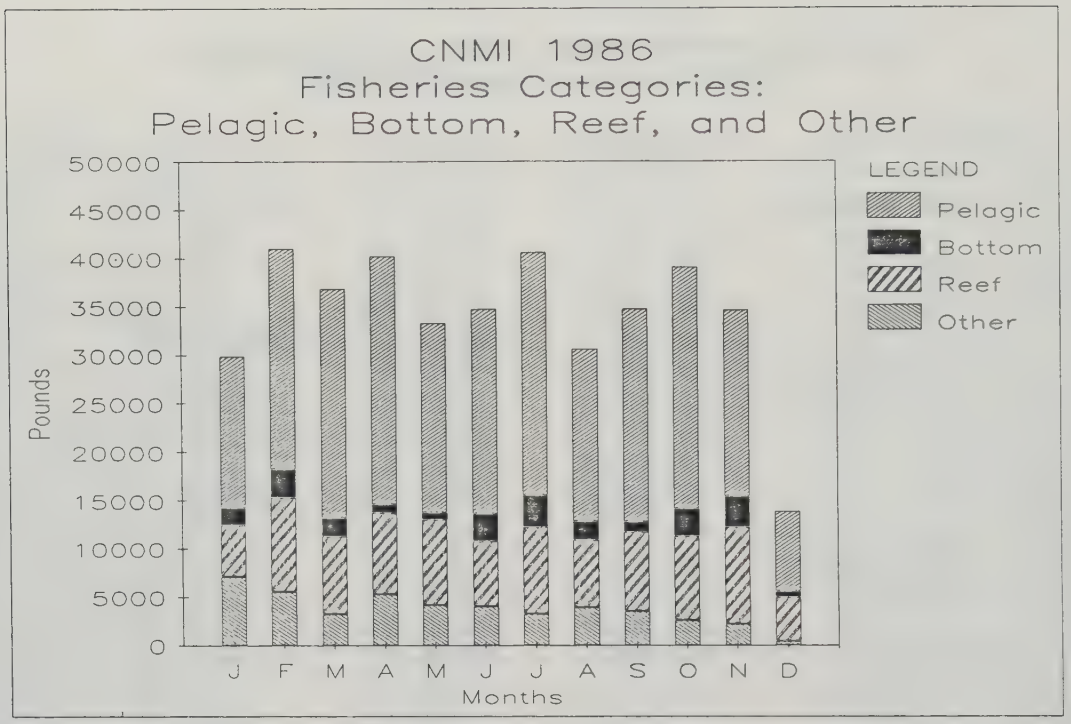
SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	16	1544.50	2860.93	1.85
JACKS	6	322.00	654.28	2.03
MULLET	1	25.00	43.75	1.75
BOTTOM FISH	11	1840.50	3141.88	1.71
GINDAI (FLOWER SNAP)	2	47.00	86.00	1.83
GROUPER	1	31.00	54.25	1.75
ONAGA (RED SNAPPER)	4	126.00	352.50	2.80
OPAKAPAKA (PINK SNP)	1	65.00	110.50	1.70
REEF FISH	77	7910.03	12303.39	1.56
RABBITFISH (HITTING)	29	769.61	1518.72	1.97
RUDDERFISH (GUILLI)	1	35.00	63.00	1.80
EMPEROR (MAFUTE)	10	687.00	1282.95	1.87
SQUIRRELFISH	2	68.00	112.00	1.65
PARROTFISH	7	645.00	991.90	1.54
SURGEONFISH	4	527.00	807.50	1.53
UNICORNFISH	3	69.25	108.88	1.57
GOATFISH	3	52.75	83.39	1.58
BARRACUDA	1	18.00	14.40	0.80
DOLPHIN (MAHIMAHI)	2	47.50	64.00	1.35
SAILFISH	1	65.00	87.75	1.35
RAINBOW RUNNER	1	30.00	37.50	1.25
WAHOO	12	680.25	935.80	1.38
SKIPJACK TUNA	103	17189.75	18239.61	1.06
DOGTOOTH TUNA	6	221.50	266.00	1.20
YELLOWFIN TUNA	19	1003.25	1505.32	1.50
LOBSTER	8	322.62	1178.61	3.65
OCTOPUS	9	294.59	512.99	1.74
** SUBTOTAL **	340	34637.10	47417.80	

Table III.2.13

CNMI DECEMBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	3	389.00	798.70	2.05
JACKS	4	160.00	294.70	1.84
BOTTOM FISH	5	375.32	654.71	1.74
GROUPER	1	33.00	66.00	2.00
REEF FISH	29	3573.14	5537.35	1.55
RABBITFISH (HITTING)	11	185.50	326.50	1.76
RUDDERFISH (GUILLI)	1	28.00	42.00	1.50
SQUIRRELFISH	4	351.25	526.88	1.50
PARROTFISH	2	36.50	54.75	1.50
SURGEONFISH	3	401.00	601.50	1.50
BARRACUDA	1	28.00	28.00	1.00
DOLPHIN (MAHIMAHI)	4	91.00	104.20	1.15
RAINBOW RUNNER	1	16.00	16.00	1.00
WAHOO	2	116.00	116.00	1.00
SKIPJACK TUNA	42	7269.25	7787.75	1.07
DOGTOOTH TUNA	1	36.00	36.00	1.00
YELLOWFIN TUNA	12	783.25	1146.96	1.46
LOBSTER	5	11.75	27.25	2.32
OCTOPUS	3	17.50	26.25	1.50
** SUBTOTAL **	134	13901.46	18191.50	
** TOTAL **	3880	410024.50	554676.40	

Figure III.2.1



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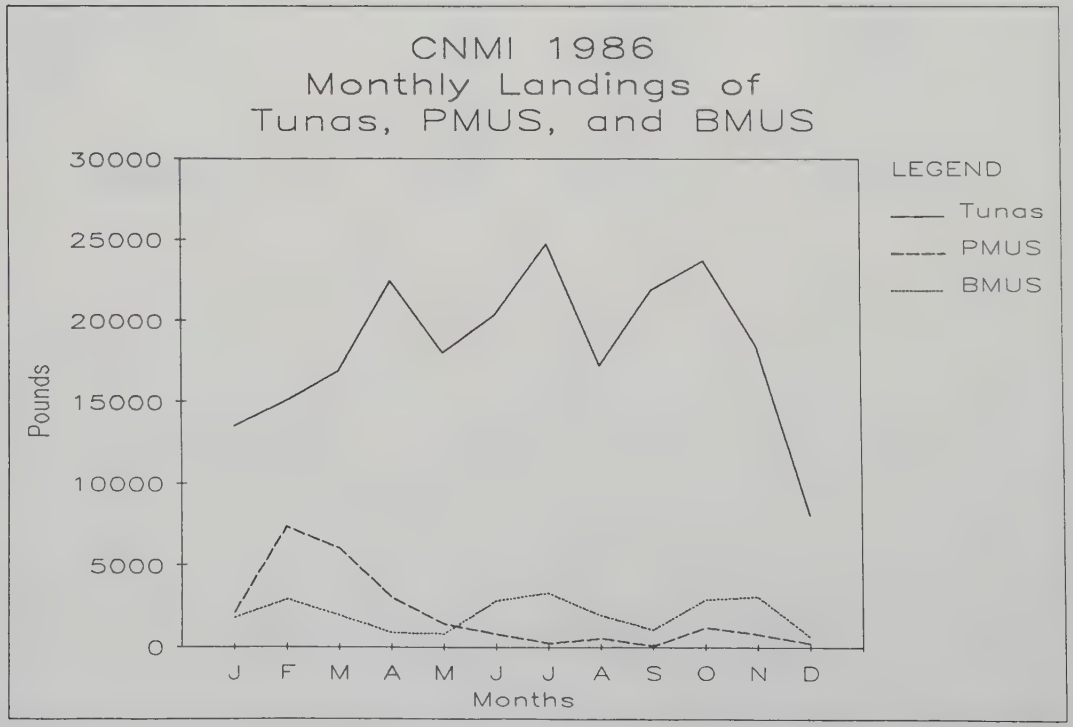

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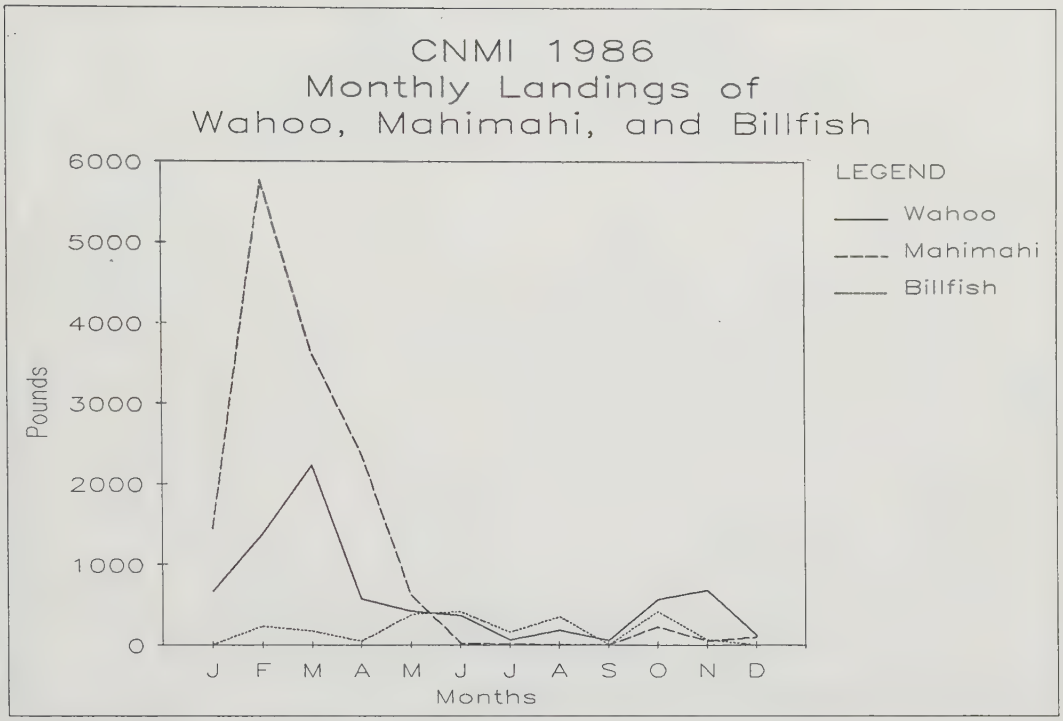

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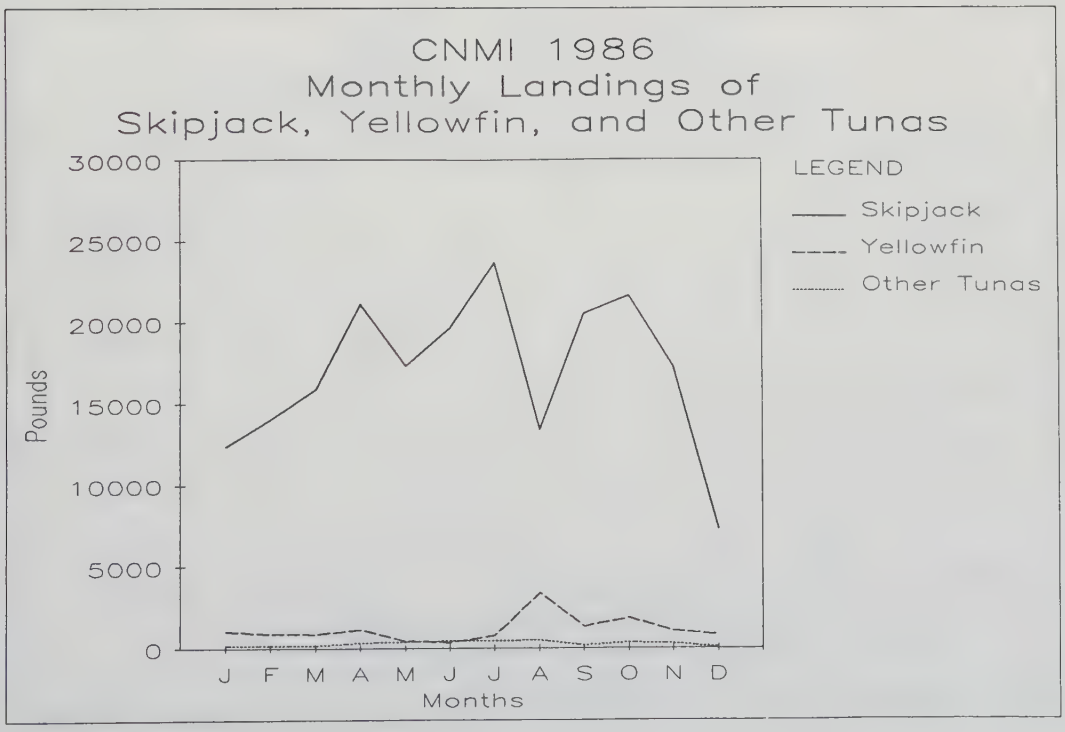

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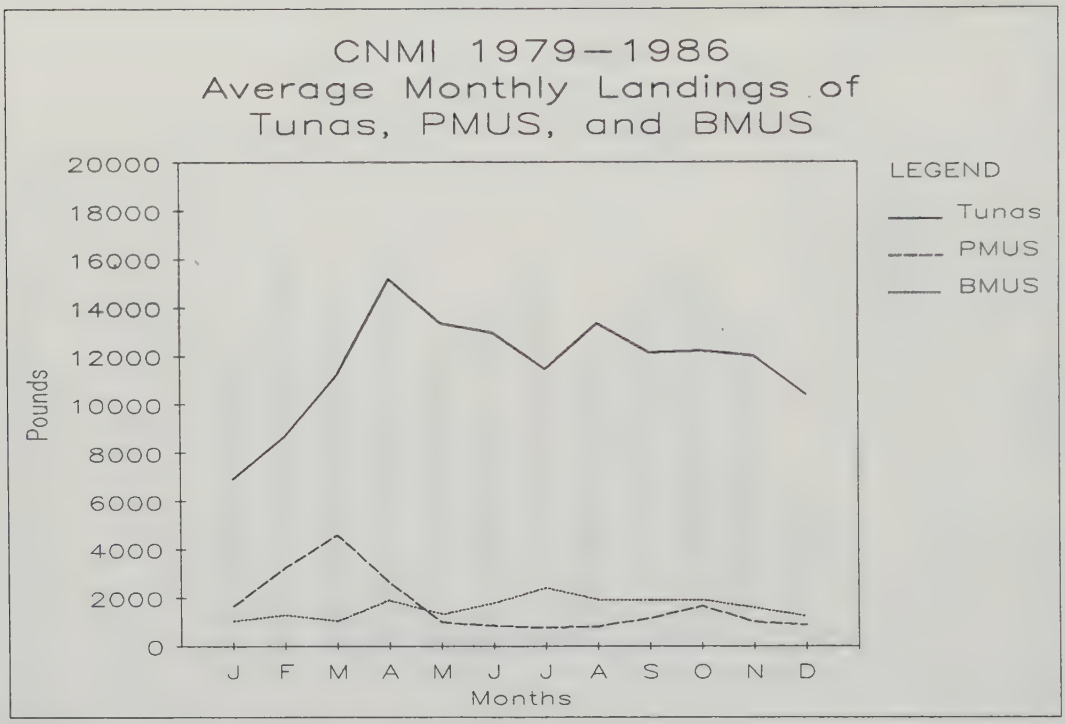

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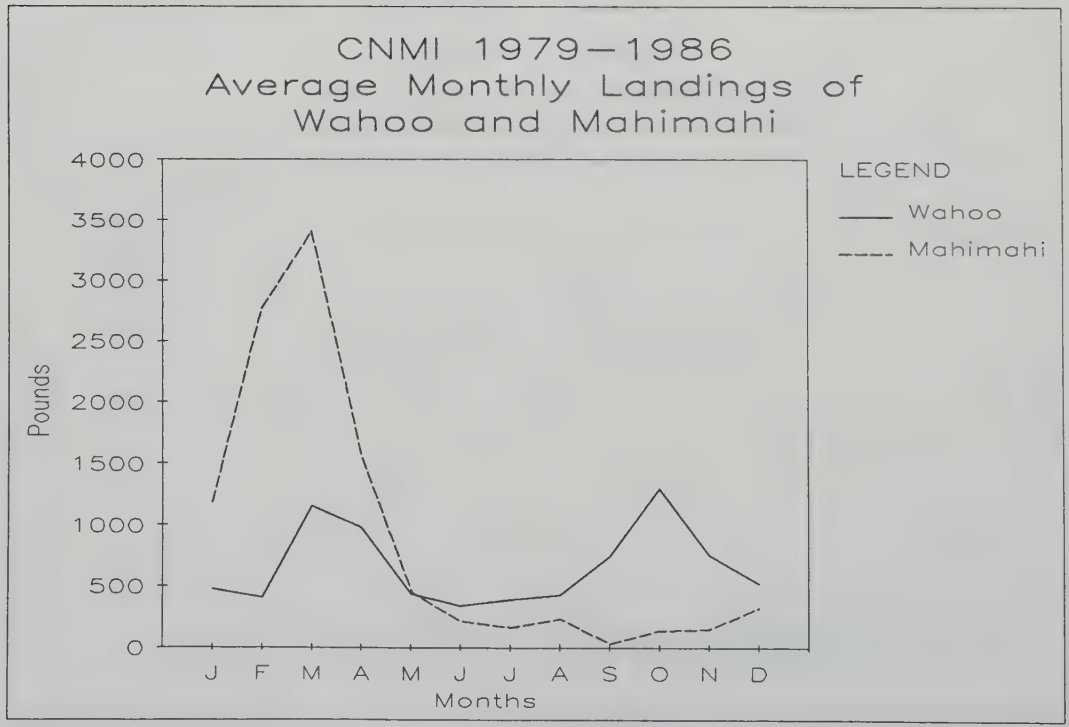

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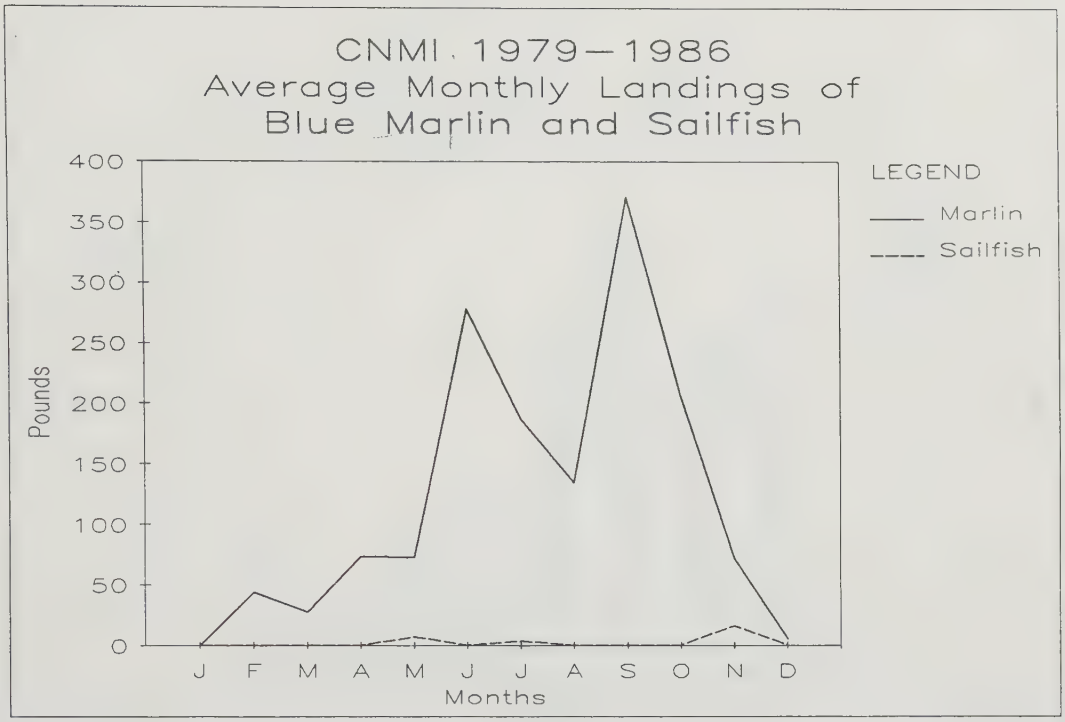

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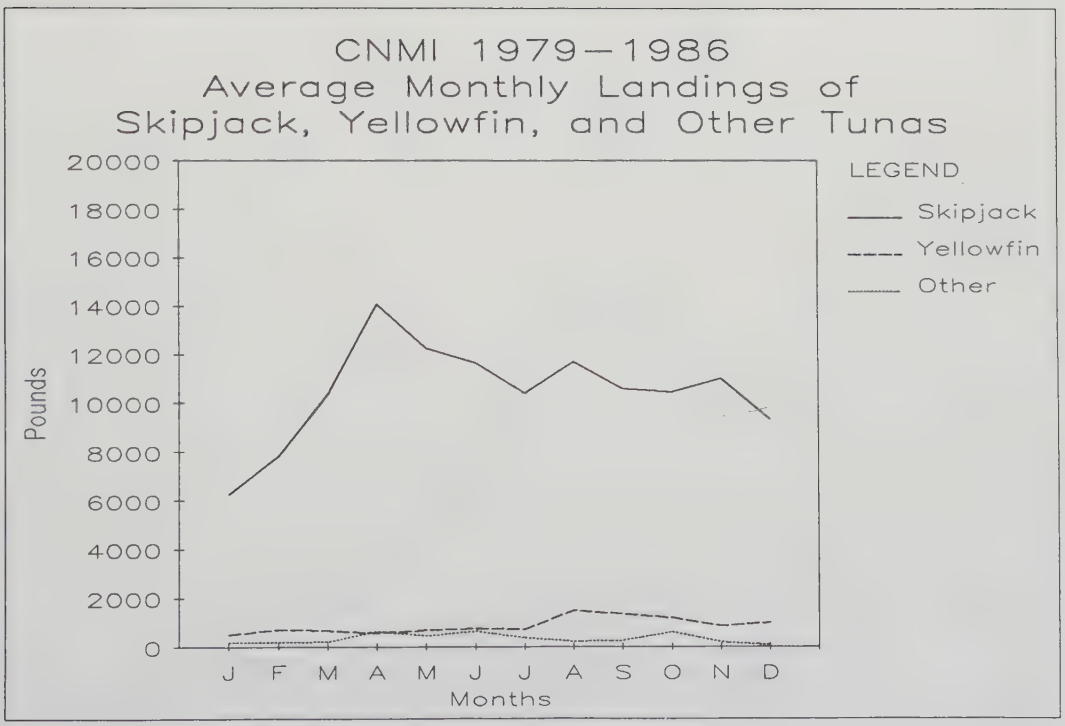

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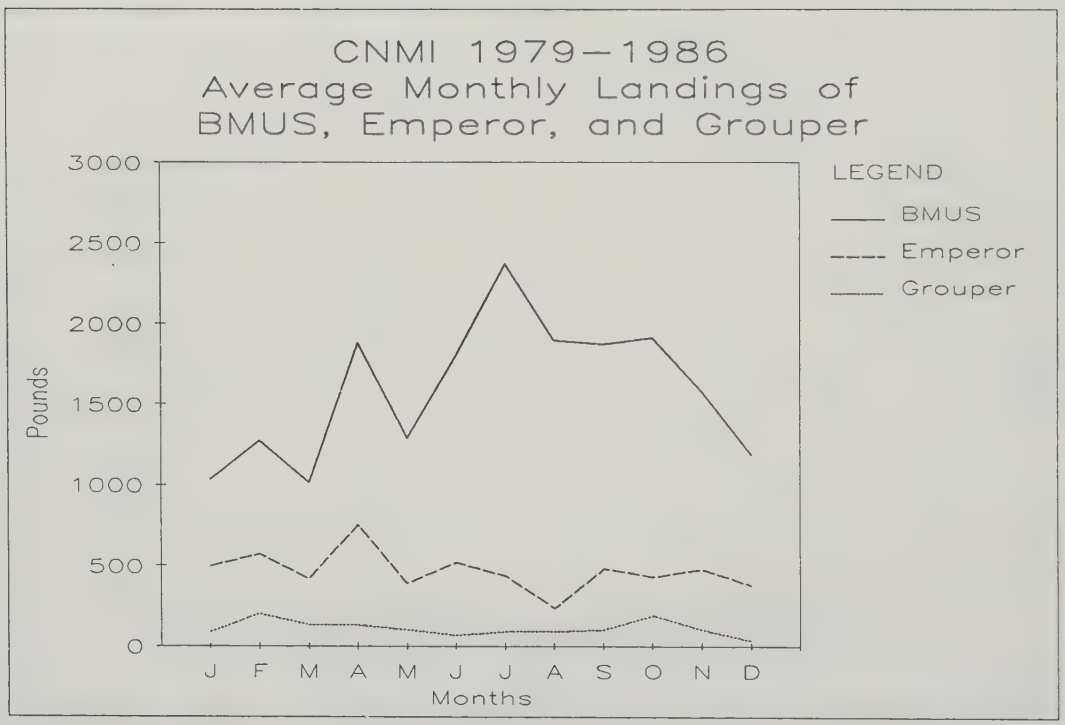

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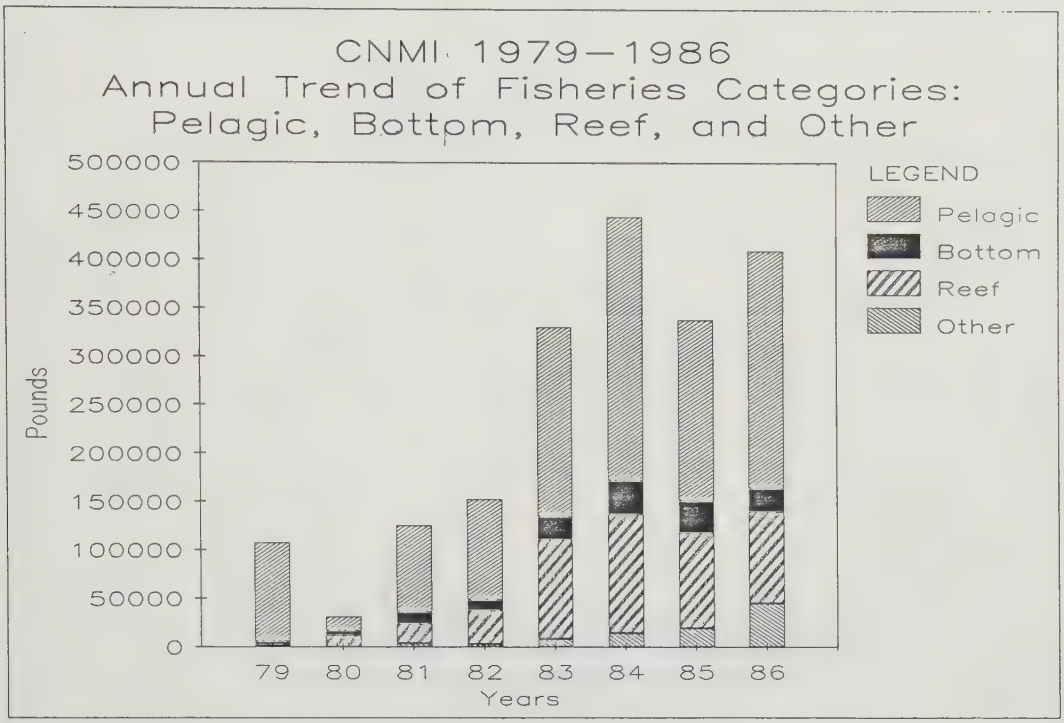

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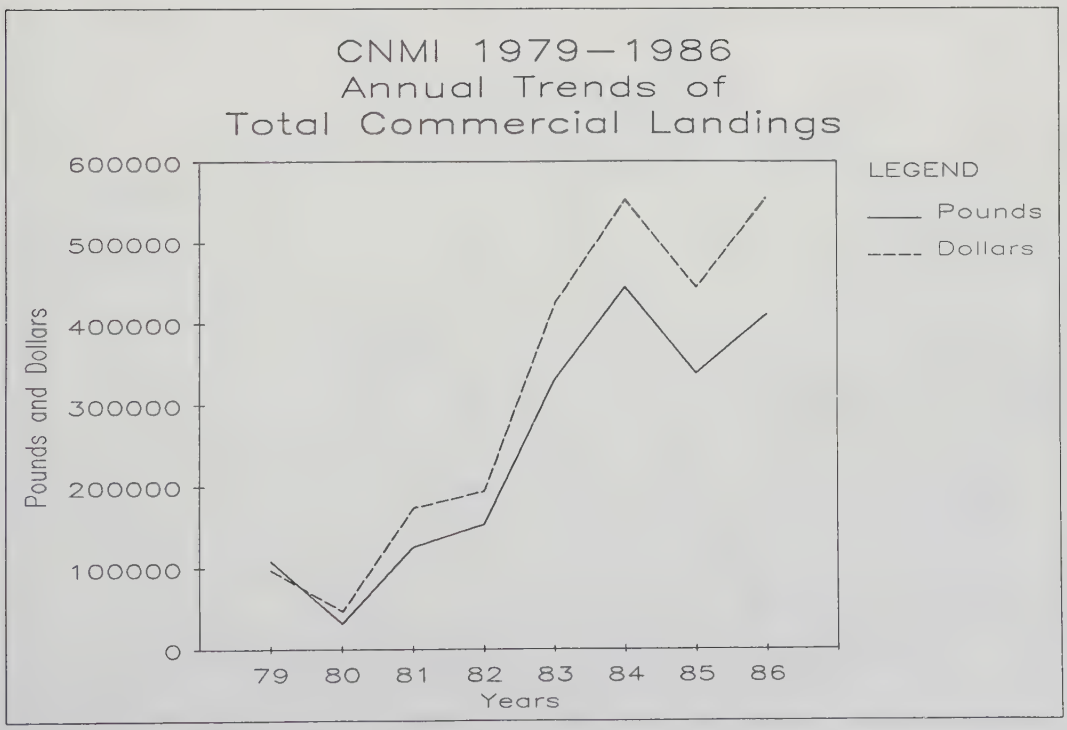

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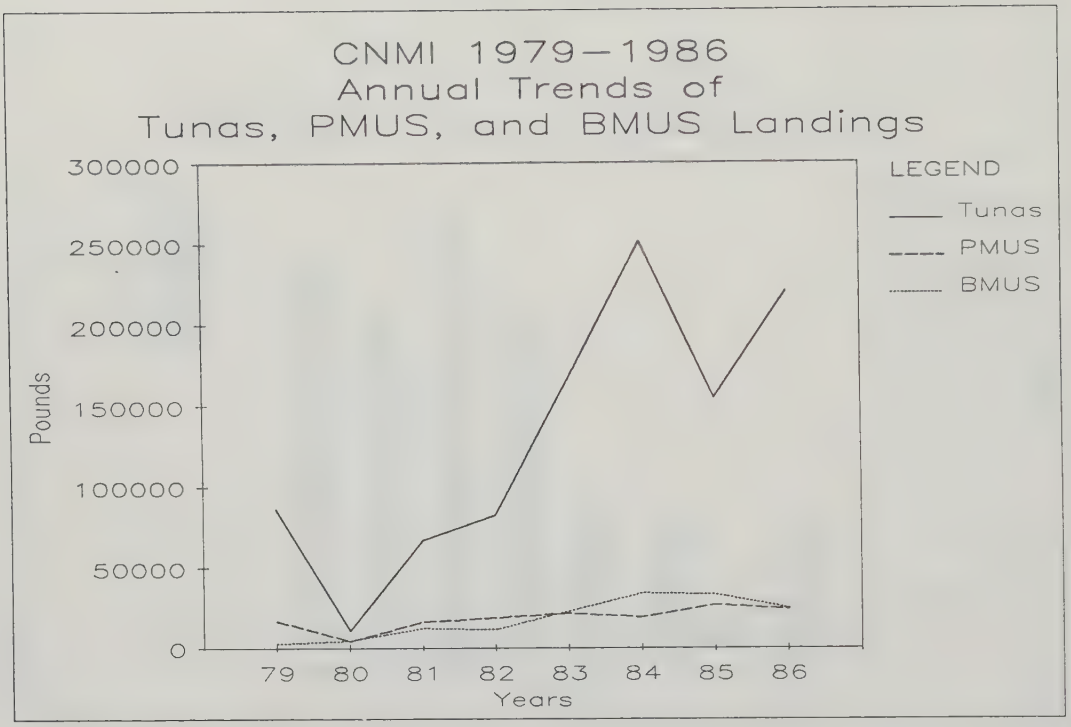

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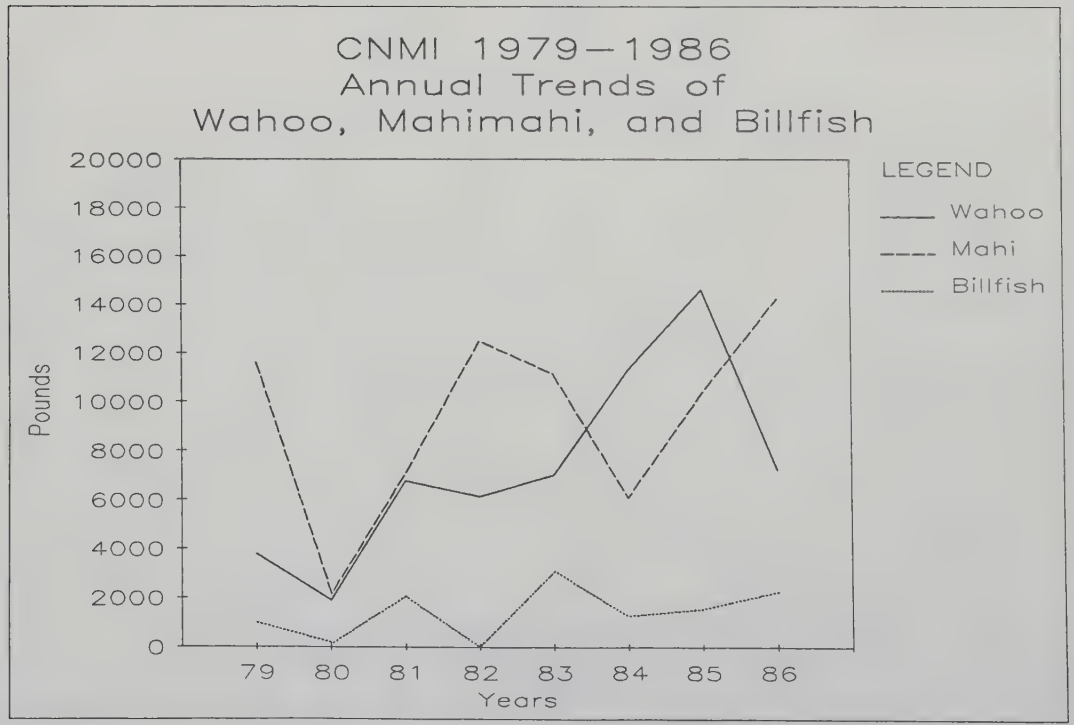

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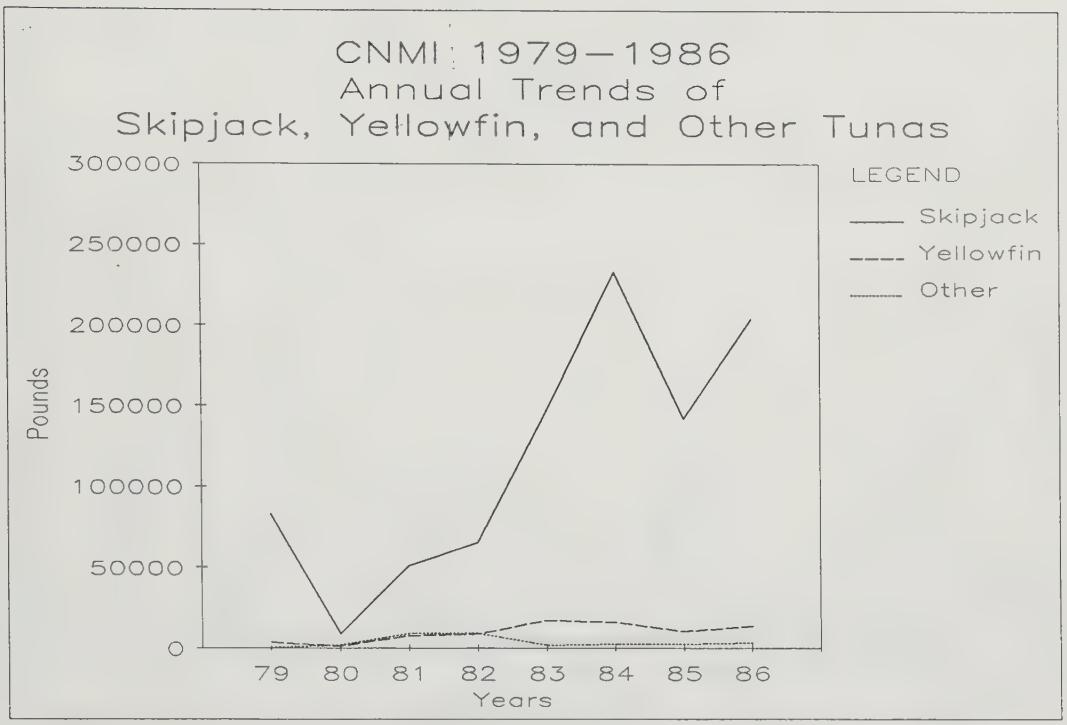

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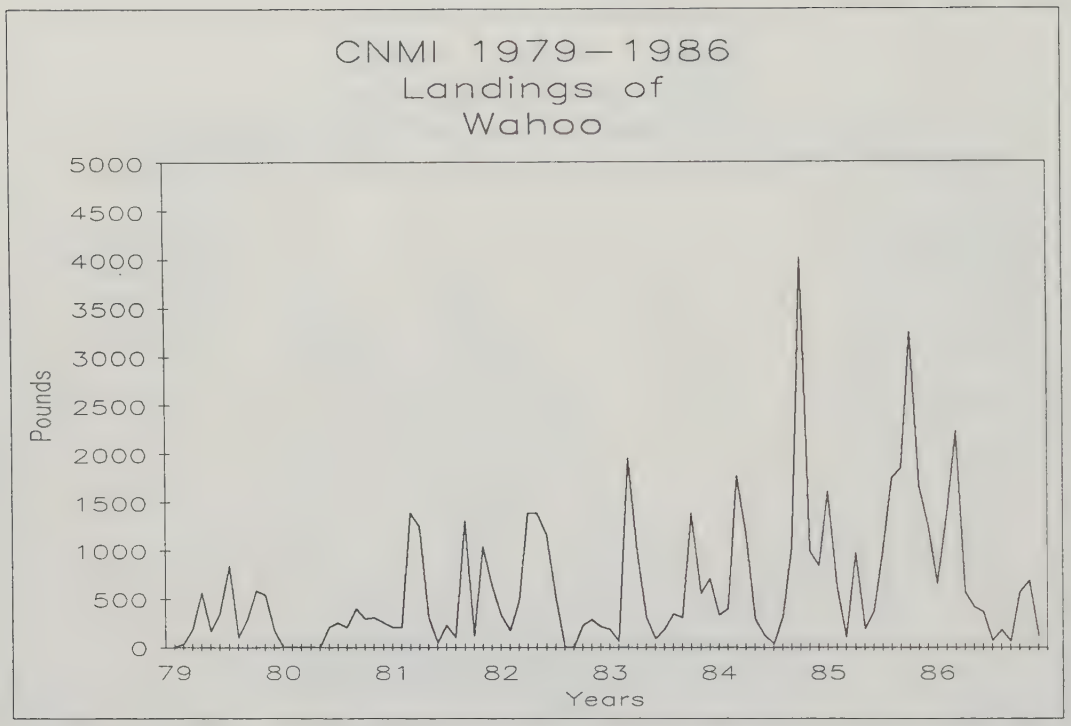

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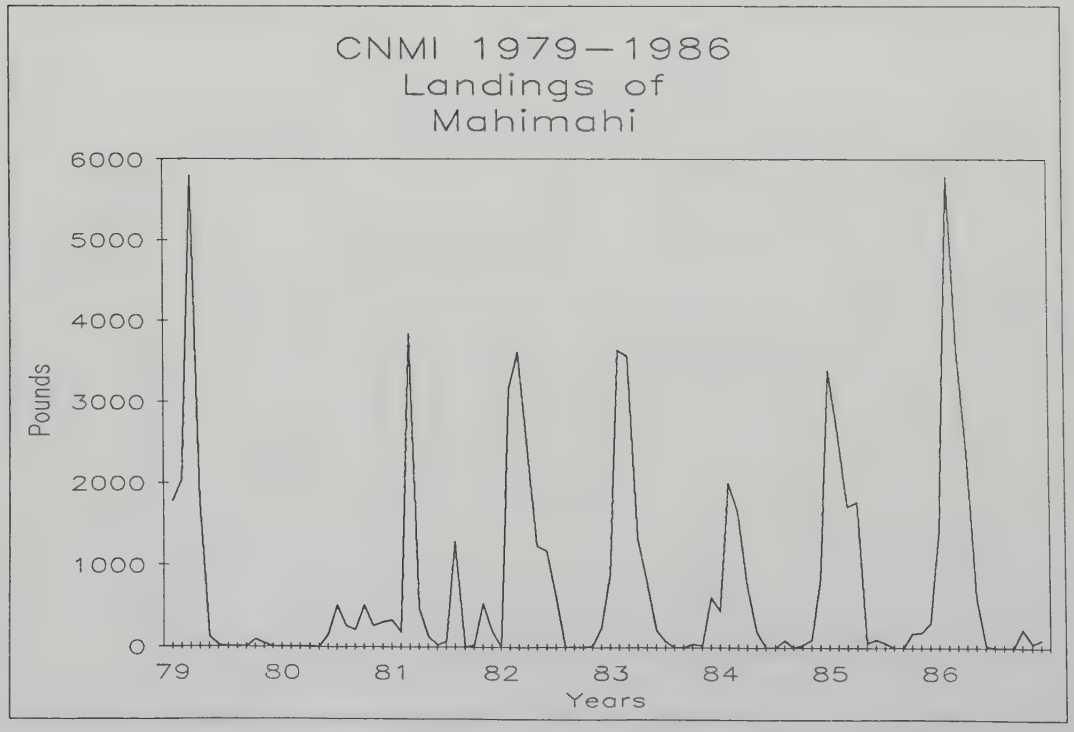

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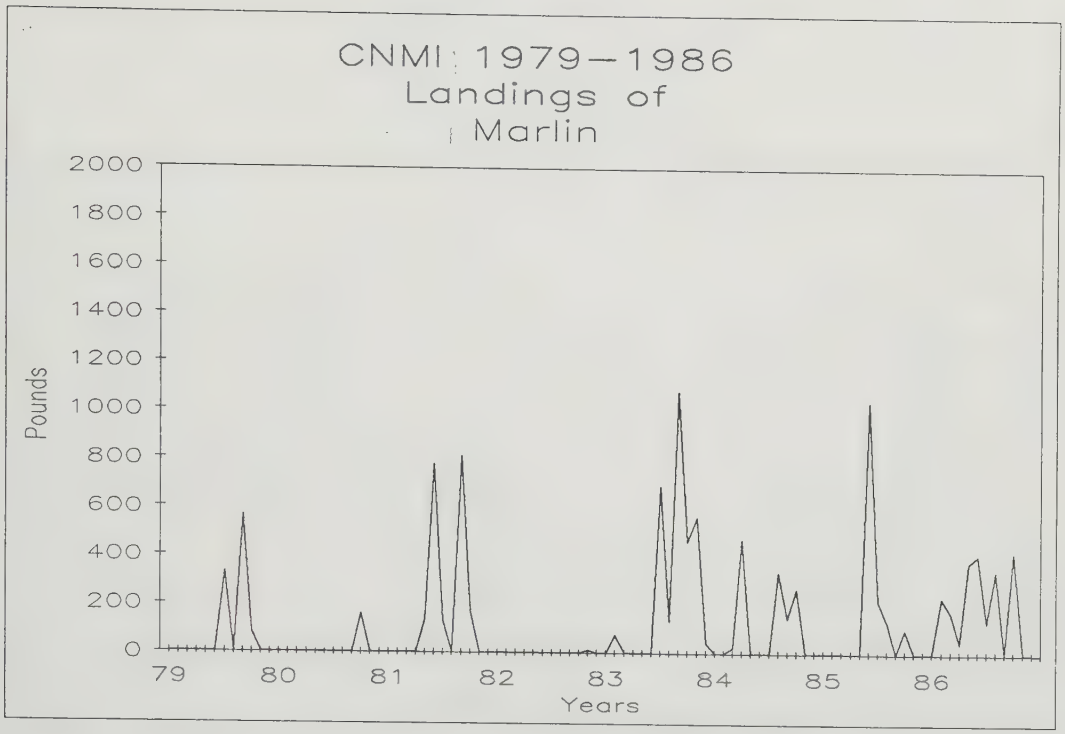

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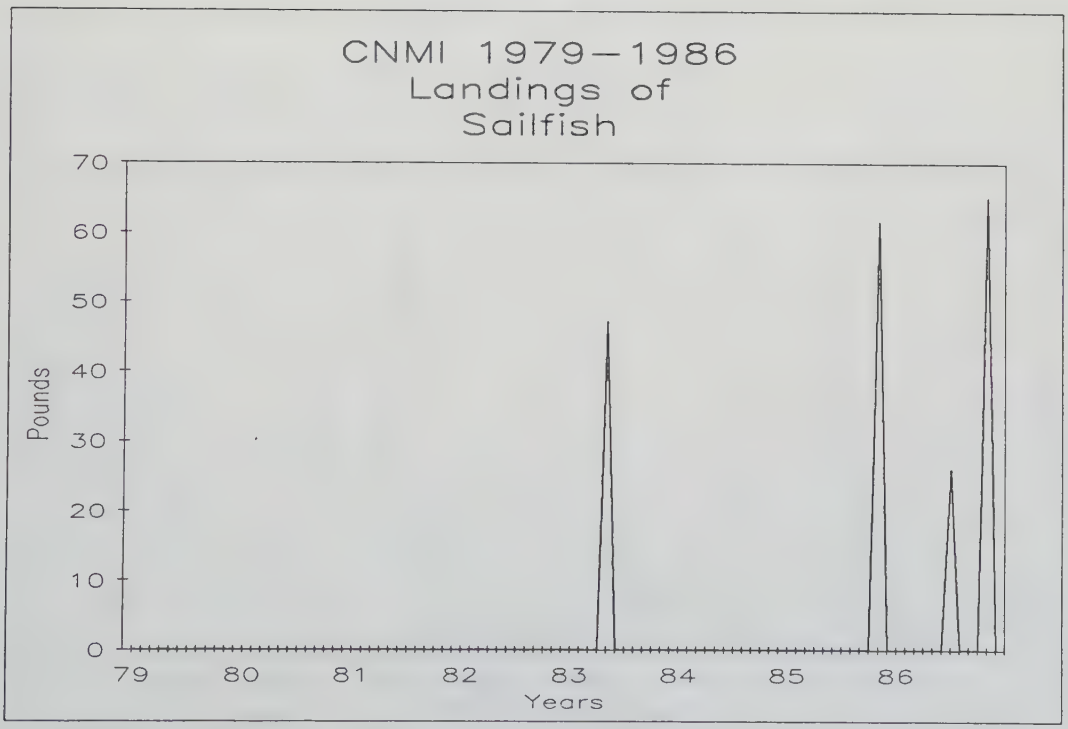

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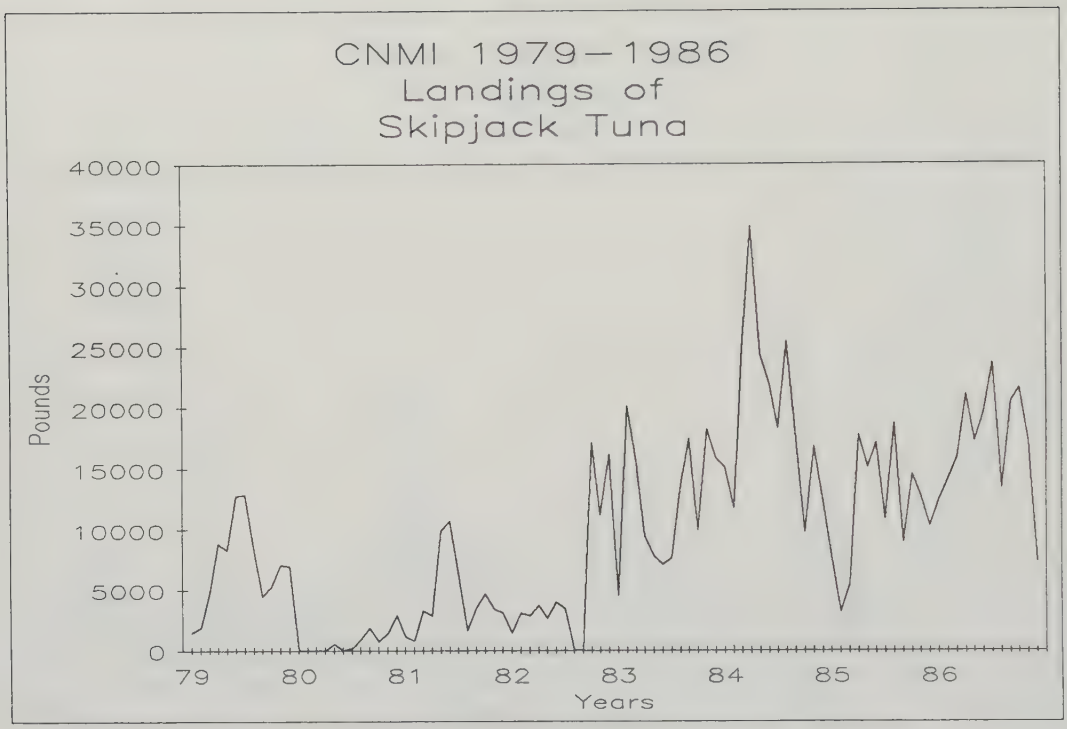

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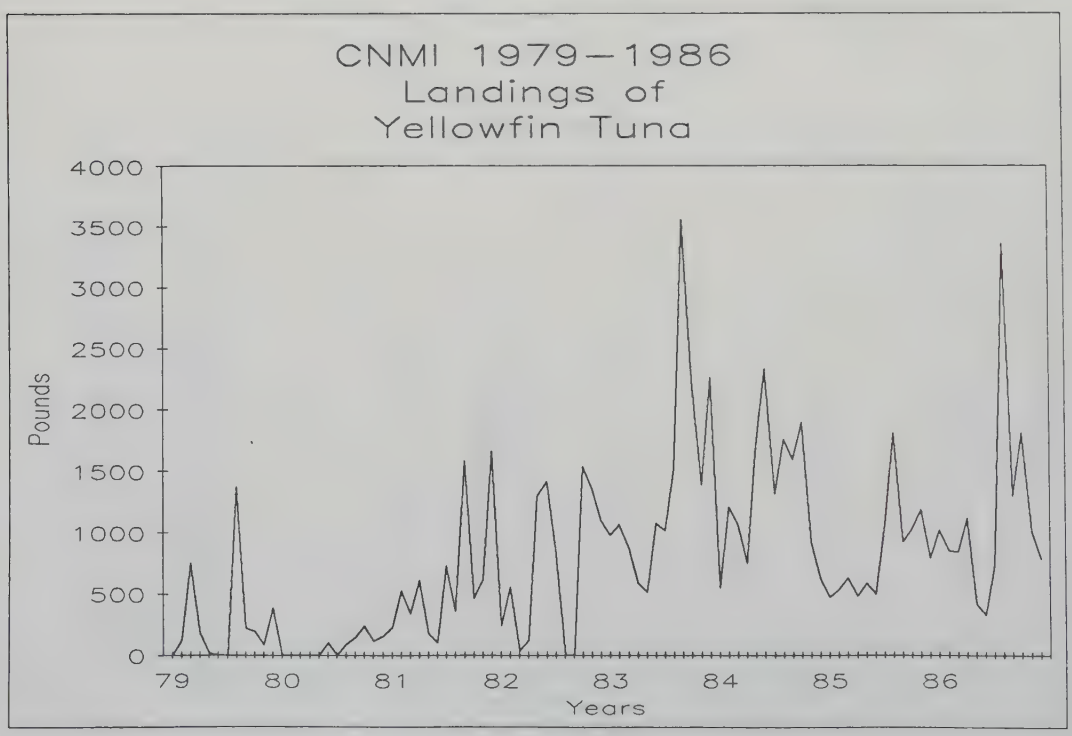

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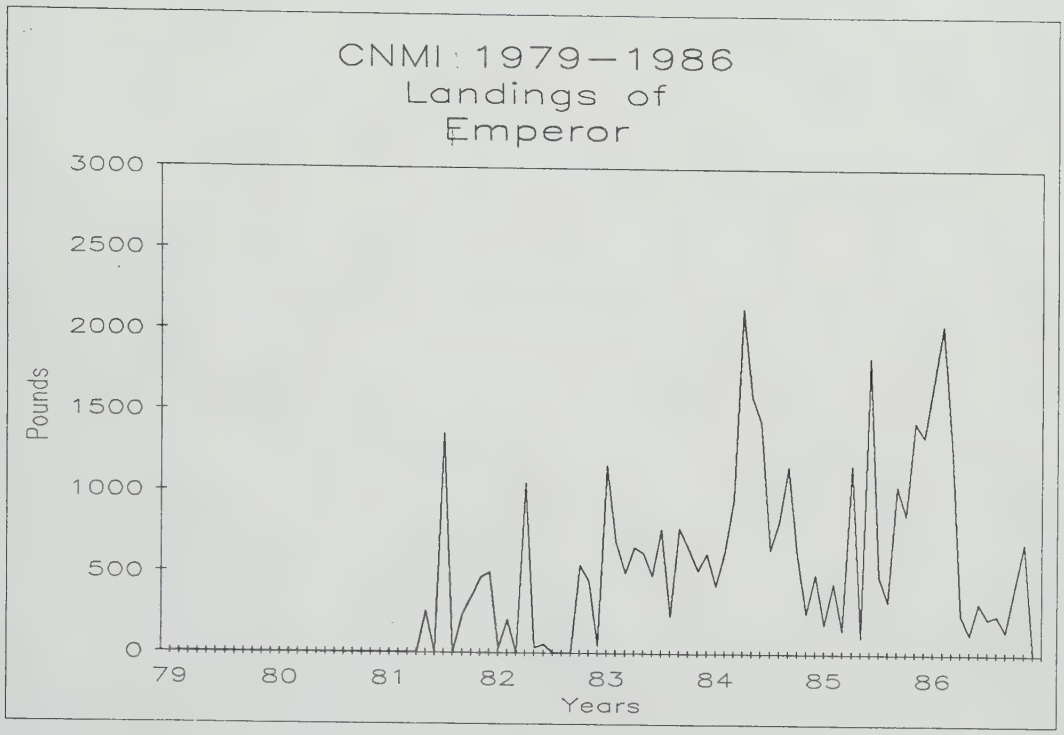

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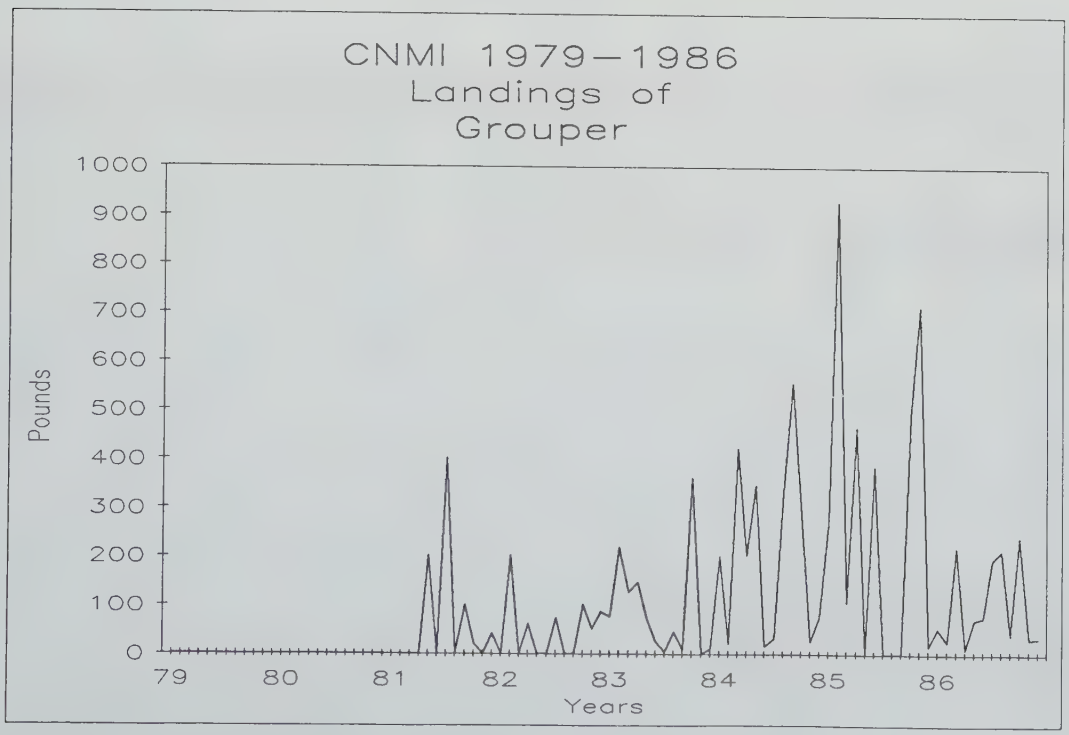

Territory of Guam

Fishery Statistics 1985 and 1986

GUAM FISHERY STATISTICS
1985 AND 1986

Compiled By

Guam Division of Aquatic and Wildlife Resources

and the

Western Pacific Fishery Information Network

March 1988

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GUAM FISHERY STATISTICS, 1985 AND 1986

INTRODUCTION

The Territory of Guam (lat. 13.4°N and long. 144.4°E) is the southernmost, largest, and most populous island in the Mariana Archipelago. All of the islands in the chain north of Guam belong to the Commonwealth of the Northern Mariana Islands. Guam is located about 6,000 km (3,700 mi) west-southwest of Honolulu, 2,500 km (1,550 mi) south-southeast of Tokyo, and 2,600 km (1,600 mi) east of Manila. Guam is about 48 km (30 mi) long, varies from 6 to 14 km (4 to 9 mi) wide, and has an estimated land area of 554 km^2 (214 mi^2) and a population of about 120,000.

Fishing activities on Guam can be divided into two basic categories: offshore and inshore fishing. Offshore fishing typically involves small boat (12 to 48 feet), 1 to 2-day trolling and bottom fishing trips that usually originate from one of the three principal harbors located on the west coast and southern tip of the island. Inshore fishing is typically conducted without the use of a boat and consists mostly of nearshore casting, netting, and spearfishing. The Guam Department of Agriculture's Division of Aquatic and Wildlife Resources (DAWR) has been conducting offshore and inshore creel surveys since the early 1970's. Beginning in 1982, DAWR began modifying its data collecting and processing systems to improve estimates of catch and effort by improving sampling techniques and by incorporating the use of microcomputers to expand the survey data. The WPACFIN provided microcomputers and training and worked with DAWR staff and a contractor to redesign the sampling program. In 1982, WPACFIN also began working with local fish wholesalers to obtain information on the commercial landings of Guam. It is from these two sources, DAWR and wholesalers, that the original data for the statistics presented in this report have come.

DATA COLLECTING SYSTEMS

The Guam data collecting systems are divided into two distinctly different systems, one for collecting commercial landings information and one for collecting total landings information through creel surveys.

Commercial Landings

Fish entering the commercial market in Guam come from three sources, full-time commercial fishermen, part-time commercial fishermen, and subsistence or recreational fishermen who frequently sell portions of their catch. No licenses are required to sell fish in Guam, nor are there any reporting

requirements for those selling fish. Before 1979, there was no central place to sell fish, so fishermen had to develop their own markets and peddle their own fish after each trip. The Guam Fishermen's Coop was established, via some government funding, in Agana in July 1979. The Coop subsequently became the central distribution center for fresh local fish. In 1982, WPACFIN began working with the Coop to improve their invoicing system and obtain data on all fish purchases. A cooperative system was established whereby the Coop would use the forms and coding schemes designed by WPACFIN and would supply copies of all invoices to WPACFIN for entering into computer format. In return, WPACFIN would provide the Coop with document quality control and computer generated summary statistics to help the Coop improve its business. All purchase data back to July 1979 also were coded and computerized.

Two other fish wholesalers began operating in Guam in late 1983, and WPACFIN established similar data collecting and processing arrangements with them. Although these two fish wholesalers eventually left the business, one in 1984 and one in early 1987, it is through the voluntary cooperation of all three wholesalers that reporting on the commercial fisheries of Guam is possible. All tables and figures of commercial landings information included in this report are provided with the consent of these wholesalers. The majority of fresh fish entering the commercial market in Guam during 1985-86 were purchased by one of the main wholesalers, although a few fishermen still peddled their catches themselves.

Data collected on commercial forms include

- Date
- Fisherman code
- Number of fishermen
- Hours fished
- Area fished
- Species caught
- Number of pieces caught
- Pounds caught
- Price per pound

Creel Surveys

The DAWR has the responsibility to monitor and protect the wildlife and marine resources of Guam. To this end, it began conducting creel surveys in the early 1970's. By systematic, random interviewing of fishermen, DAWR developed a means of estimating total catch and effort by fishing method for the inshore and offshore fisheries. Sampling methodologies were frequently modified in the early years to incorporate new information and insights gained during the surveys. Aerial surveys were conducted for several years to help improve estimates of percent coverage. The basic survey methodology was

fairly well established by 1979. All data processing was done by hand.

In the 1970's, an annual fishing derby was organized on Guam by groups of local fishermen. This 3-day tournament soon became a highly successful event, with much participation by local recreational and commercial fishermen. The DAWR began collecting census information on the Annual Mariana's Fishing Derby activities as a means of obtaining additional catch and effort information. Although the significance of these data is minor compared to the creel surveys, summaries of derby results are included in this document as a point of interest.

In 1982, WPACFIN hired a contractor to work with DAWR staff to improve the statistical validity of the creel surveys and to establish mathematical algorithms to expand the sample data to estimate total catch and effort with confidence intervals. Consequently, DAWR further improved its sampling methodologies based on the contractor's recommendations, such as adding surveys to better estimate total participation. The WPACFIN developed computer processing systems to automate the data handling and expansion activities. The system design is flexible enough to allow for continued improvements as additional information, insight, and funding are gained. It is essential for the user to understand the basic sampling design and some of the assumptions made for the offshore and inshore surveys to facilitate proper interpretation of the resultant statistics.

The DAWR's fishermen interviews, also called creel surveys, are divided into two separate, major surveys, offshore and inshore. Both are based on a systematic, random sampling of the fisheries; field sampling and interviews are done on a specific number of randomly selected weekdays and weekend-holidays each month. Both surveys are stratified by weekday and weekend-holiday sampling and, during 1985-86, were conducted on 4-6 days per month. Both include two subsurveys, one for counting and estimating total participation and one for actually interviewing fishermen for catch and effort information. Both are based on the assumptions that the information given by the fishermen is accurate and the fishermen interviewed are representative of the entire fishing population.

Offshore Creel Survey

Most offshore fishing trips originate from one of three harbors on Guam. Apra Harbor is the largest of these harbors, serves military and commercial shipping activities, and is considered one of the best natural harbors in the western Pacific. It ranks third among the harbors as points of origination for offshore fishing trips. Cocos Lagoon on Guam's southern tip is the second largest protected harbor and ranks second as a launching area for offshore fishing trips. The

Agana Boat Basin, centrally located on the west coast of Guam in the capitol of Agana, is the smallest of the three harbors but is the busiest launching area for offshore fishing trips. Therefore, DAWR selected the boat basin as the site for interviewing offshore fishermen.

Concurrent with interviewing fishermen returning from trips at the boat basin, a participation survey is conducted to obtain counts of boating activity for the entire island. For estimating total participation for a survey day, unless contrary information is available, a boat is assumed to be fishing if it is "out," as evidenced by its trailer at a boat ramp or being missing from its normal berthing area. A further assumption is made that the fishing activity and success rate of fishermen originating at the Agana Boat Basin are not statistically different from those of fishermen leaving from other areas on the island. The basic premise of the offshore sampling program is that the combined interviews collected on each survey day are sufficient to estimate the average catch and effort for each fishing method used during that day. Therefore, each survey day represents a measurement of the offshore fisheries. Data collected during the participation portion of the offshore creel survey are limited to boat count by launching area, whereas data collected during interviews include the following:

* Date (year, month, day)
* Type day (weekday or weekend-holiday)
* Fishing method
* Interview time
  Area fished
  Boat number
* Number of fishermen
* Number of gear units
* Hours fished per gear
  Total count for all species combined
  Type total count
* Total weight for all species combined
  Type total weight
  Total number of species
  Type total number of species
Total count for each species
  Type count for each species
Total weight for each species
  Type total weight for each species
Species name (or species group)
  Length for an individual fish
  Type individual length
  Weight for an individual fish
  Type individual weight
  Bait used (up to three different types)
  Wind direction and speed
  Weather conditions
  Cloud cover

Lunar day
Percent of catch kept
Percent of catch sold to the Coop
Percent of catch sold elsewhere

It is not always possible for the interviewer to obtain information on all items listed. However, those marked with an asterisk (*) are essential to the data expansion process for estimating total catch and effort. Those marked with a pound or number sign (#) are essential to estimating the percent species composition of the catch. The "type" elements (e.g., type individual length) identify the kind of measurements, i.e., either actual, estimated, or calculated.

Inshore Creel Survey

Fielding the inshore creel survey is considerably more complex and troublesome than the offshore survey for several reasons. For instance, fishing activities originate from and occur over a large portion of the coastline, making participation counts and fishermen interviews much more difficult to obtain. Additionally, it is more difficult to obtain interviews for completed fishing trips because the interviewer must survey many miles of coastline where fishermen may quickly terminate their activities at any time. The turnover rate of fishermen during the sampling period is a difficult factor for which to adjust. Tidal stage and moon phase also influence inshore fishing much more than offshore fishing. Nighttime and seasonal pulse fishing are also major considerations for the inshore fisheries. In October 1984, DAWR began additional survey efforts to help quantify the nighttime and seasonal inshore fisheries.

Notwithstanding these complexities and problems, the basic designs of the offshore and inshore surveys are very similar in that they both have participation counts and creel interviews. Two of the significant differences between the offshore and inshore surveys are that the inshore participation counts are made by fishing method as well as by location, and that interview information is combined to form averages of catch and effort for a much larger time period (month, quarter, year) than a single day as in the offshore survey. Therefore, daily measurements of the inshore fisheries are based on island-wide participation counts for a survey day by using averages for the catch information based on user-specified, flexible time periods, typically quarterly and annual averages. This modification of the expansion algorithm was required for DAWR to physically complete an inshore survey with limited manpower. Participation counts for essentially the entire island can be obtained during a single sample day, but adequate creel interviews for all methods for the entire island cannot be obtained with the manpower available. Additionally, the surveyable portions of the coastline are divided into three

regions to facilitate statistically sound sampling of fishermen. Data for the day and night surveys are processed and expanded separately. Data on the seasonal fisheries for juvenile rabbitfish and bigeye scad are collected at irregular intervals when the fisheries are active. Information collected during the inshore participation surveys includes

* Date (year, month, day)
* Type day (weekday or weekend-holiday)
* Location fished
  Time sighted
* Method used
* Number of persons
* Number of gear units
  Reef zone fished
  Weather and water conditions
  Tidal stage

Information collected during the inshore interviews includes

* Date (year, month, day)
* Type day (weekday or weekend-holiday)
* Fishing method
* Interview time
* Location
  Reef zone fished
* Number of fishermen
* Number of gear units
* Actual hours fished per gear
* Estimated trip time
  Total count for all species combined
  Type total count
* Total weight for all species combined
  Type total weight
  Total number of species
Total count for each species
  Type count for each species
Total weight for each species
  Type total weight for each species
Species name (or species group)
  Length for an individual fish
  Type individual length
  Weight for an individual fish
  Type individual weight
  Bait
  Wind direction
  Wind speed
  Weather conditions
  Cloud cover
  Surf
  Tidal stage
  Swell direction

As in the offshore survey, the interviewer cannot always obtain information on all items listed. Those marked with an asterisk are essential to the data expansion process for estimating total catch and effort. Those marked with a pound or number sign are essential to estimating the percent species composition of the catch. The "type" elements (e.g., type individual length) identify the kind of measurements, i.e., either actual, estimated, or calculated.

DATA PROCESSING SYSTEMS

The Guam data processing systems are divided into two separate and distinctly different systems, one for processing the commercial landings data and one for processing the DAWR creel survey data.

Commercial Landings

The processing system for the commercial landings data collected from the wholesalers is fairly straightforward. A purchase form is completed by the wholesaler each time fish are purchased from a fisherman. Catches are divided into categories for weighing by species or species group, and where practicable, number of pieces is recorded. Preferably, coding and initial quality control of the forms are done by Coop or DAWR personnel before they are shipped to WPACFIN for computer processing; however, these activities must sometimes be done by WPACFIN staff. Data are entered into a computer and loaded into central WPACFIN data bases, where edit reports are generated and used to locate and correct any errors in the data base. Once all edits, verifications, and corrections are made, summary reports are generated. Standard reports available include total monthly and annual landings by species, total landings by fisherman, and landings by fisherman by species. Purchase forms are returned to the wholesalers along with summary reports and graphs for their use.

Creel Surveys

The processing systems for the creel surveys are much more complex than those for the commercial landings data. The basic data handling and processing systems for the inshore and offshore surveys are the same. Data forms completed in the field during the participation and creel surveys are returned to the office and edited for completeness and legibility before the data are entered into structured computer data bases by using commercially available data base management software. Edit and summary reports are produced to verify the quality of the data, and any errors are corrected in the data bases. Data bases are then translated into standard record formats, which are readable by the data processing and expansion systems programmed by WPACFIN specifically for the offshore and inshore surveys. As

data are converted into the Guam Offshore Expansion System (GOES) and the Guam Inshore Expansion System (GIES), additional error checks are performed by the computer to ensure only valid information enters the expansion systems. Errors are flagged and printed to facilitate correction. The GOES and GIES are user-friendly, menu-driven systems that step the user through a series of processes that summarize creel survey and participation data to produce catch and effort expansion and species composition files and reports. Although the GOES and GIES allow processing data for whatever time increment the user specifies, typically 1 month of data is processed at a time for the offshore surveys, and 3-month or annual data are combined for the inshore surveys.

Generally speaking, the expansion algorithms for the offshore and inshore surveys are very similar. Estimates of total catch, effort, and participation for each fishing method are generated from information collected during the participation and creel surveys. The GOES uses same-day catch and effort averages to expand the participation counts, whereas the GIES uses user-specified, time period catch and effort averages to expand the daily participation counts. Inshore day and night surveys are treated identically but separately. The daily estimates are considered measurements of the fisheries for that day. Average weekday and weekend-holiday estimates and their associated variances or confidence intervals are created from individual daily measurements. These are weighted by the number of each type of day in the month, or other timespan, and multiplied by proportionality constants to adjust for percent coverage to produce estimates of total catch, effort, and participation along with their confidence intervals. All steps in the expansion process are stratified by fishing method. The expansion systems produce several detailed summary reports and a summary expansion data file containing the final totals for all important catch and effort statistics. This summary expansion file is later used to produce the types of reports contained in this document.

Estimates of species composition of the expanded catch are obtained for each method by multiplying the calculated percent species composition of the surveyed catch by the expanded total catch. Percent species composition by fishing method is obtained from the sampled catch based on the average individual weight and the total number of individuals recorded for that species. The average size of each species is obtained by one of three methods, depending on the availability of data in the data base. If total weight and count information are available, the average size per individual is calculated by dividing the total weight by the total count. If total weight and count information are not available but individual weight measurements for a species are available, the average size per individual is calculated by dividing the sum of all individual weights by the total number of individuals weighed. If neither of these

methods can be used because no size information is available in the data base, the user is asked to input the species' average size, which is then multiplied by its total count to estimate total sampled catch of that species. Therefore, percent species composition is calculated by dividing the estimated sampled weight of the species by the estimated total sampled weight of all species combined. The species composition programs produce summary reports for immediate reference and summary data files for later use by reporting and summarizing software for generating the types of reports contained in this document.

Catch, effort, and participation data collected during the seasonal fisheries for bigeye scad and juvenile rabbitfish are processed by hand. Interview records are scarce, so hand tabulations and expansions are made to produce ballpark estimates of catch.

DATA REPORTING SYSTEMS

The Guam data reporting systems are divided into two separate systems, one for reporting on the commercial landings data and one for reporting the results of the creel survey.

Commercial Landings

After completing all editing and quality control activities for the commercial landings data, monthly and annual summary reports by species are generated. The commercial landings reports section of this document includes monthly and annual reports for 1985 and 1986. Volume II of this report series contained these reports for July 1979 through December 1984. Each report contains information on the pounds, value, average price per pound, and number of recorded landings for each species or species group. The number of recorded landings ("RECORDS" in the tables) is a measurement of how many times each species was purchased, regardless of its number or weight in the landing. This statistic is provided to give an indication of the frequency each species is reported. The POUNDS can be divided by the RECORDS to calculate the average weight of each landing. Each monthly report contains a subtotal for the sum of all species combined for that month, and the December report also includes the annual total. Annual reports contain the total landings for each species and the total recorded landings for all species for the calendar year.

Included with the commercial landings summary reports are graphs of some of the important statistics. The following groupings of species, species categories, and abbreviations are used in the tables and graphs for Guam's commercial landings:

I. Pelagic Management Unit Species (PMUS)

Mahimahi (dolphinfish)
Marlin (probably all blue but possibly striped or black)
Shortbill spearfish
Sailfish
Wahoo
Sharks

II. Bottom Fish Management Unit Species (BMUS)

Jacks (unclassified but excluding bigeye scad)
Bottom fish (unclassified)
Ehu (red snapper)
Gindai (flower snapper)
Grouper
Kalekale (pink snapper)
Lehi (silverjaw snapper)
Onaga (red or longtail snapper)
Opakapaka (pink snapper)
Uku (gray snapper)
Emperorfish

III. Billfish

Marlin (probably all blue but possibly striped or black)
Shortbill spearfish
Sailfish

IV. Tunas

Tunas (unclassified)
Skipjack tuna
Yellowfin tuna
Dogtooth or white tuna
Kawakawa

V. Other Tuna

All the above tunas excluding skipjack and yellowfin tunas.

VI. Fisheries Categories

A. Pelagic Species

All PMUS and tuna species plus the following:
Troll fish (unclassified)
Barracuda
Rainbow runner

B. Bottom Fish

Same as the BMUS

C. Reef Fish

Reef fish (unclassified)
Giant wrasse
Rabbitfish
Rudderfish
Squirrelfish
Parrotfish
Snapper
Surgeonfish
Unicornfish
Goatfish

D. Other

Miscellaneous (unclassified)
Bigeye scad
Mullet
Eels
Milkfish
Invertebrates (unclassified)
Crabs (unclassified)
Coconut crab
Lobster
Shrimp
Octopus
Squid
Seaweeds
Imported

Creel Surveys

Two general types of reports are included in this document from the DAWR creel surveys, catch and effort expansion reports and species composition reports. These reports are produced by using the expansion and species composition files created by the GOES and GIES as input to a series of utility programs developed by WPACFIN. The utility programs reorganize, format, and summarize data from the GOES and GIES files to improve the presentation of the data and reduce the amount of space required to report the important statistics. Two of the most significant space saving improvements are the combining of many species into species groups, usually to the family level, and the combining of lesser used fishing methods into a single category. The original offshore and inshore species composition files contained about 300 different species categories, which were reduced to about 90 categories. For instance, 22 species of squirrelfish and 20 species of wrasse were reduced to just the 2 family groupings. All significant or important species retain their individual identity and are reported separately in the tables. In the original offshore species composition files, catches were reported for nine fishing methods; however, only two methods, trolling and bottom fishing, were significant as

they generally accounted for over 97% of the catch. Therefore, reports of offshore species composition were reduced to just three method categories, trolling, bottom fishing, and other. Inshore species composition reports were reduced to totals only. Expansion reports for the inshore and offshore surveys include estimates of total catch and effort for each method recorded.

Monthly and annual catch and effort expansion reports and species composition reports are presented for the offshore fisheries for 1985-86. Monthly expansion and species composition reports have matching totals for catch by fishing method since the monthly species composition reports are based on the expansion files. Annual expansion and species composition reports also have identical totals because the species reports were generated from the annual expansion files. However, the totals on the annual reports will not equal those obtained by adding all of the monthly files together because the annual expansion reports were generated by re-expanding the entire year's data together, thereby increasing the sample size significantly, and it is hoped, improving the annual estimates of percent species composition and of catch and effort and their associated coefficients of variation (CV's). This also makes expansion possible for months in which sampling was insufficient or nonexistent. The annual species composition reports were created by calculating annual percentages of species composition by combining all sampling for the year and then multiplying these percentages by the annual expansion totals. This allows calculation of percent species composition based on greatly increased sample size. Annual expansion and species composition reports are presented for the day and night inshore creel surveys for 1985 and 1986. Combined day-night and offshore-inshore species composition reports are also presented for 1985 and 1986.

Computer generated numbers and all totals in the reports are subject to rounding error. All catches are reported in pounds, and effort, in hours (boat hours for the offshore survey and gear hours for the inshore surveys). In the offshore expansion reports, the boat counts by fishing method will not add to the total boat count when the same boat was used for more than one method on a single trip. In these cases, the boat is included in the count for each method used but included only once in the total boat count. A separate CV is included for each statistic reported in the offshore expansion reports, but because of the differences in the offshore and inshore expansion algorithms, only a single CV is included for all statistics reported in the inshore expansion reports. The CV provides a measurement of the relative variation associated with the estimate preceding it and is calculated by dividing the standard error of the estimate by the estimate and multiplying by 100 and rounding to express the answer as a whole percentage. The larger the CV, the larger the relative variation in the data used to generate the estimate and, therefore, the less precise

the estimate. An asterisk following a line means the number of samples collected for that method during that month were insufficient to properly calculate .pa
the CV. There must be at least two weekday and two weekend-holiday samples for each method to properly compute a standard error and, therefore, properly compute the CV. If an asterisk is present and the CV is greater than zero, then samples on either the weekdays or the weekend-holidays were sufficient to compute a standard error for that type of day but not for the other type of day. In this case, the CV provided in the report is for the type of day in which sample information met the minimum requirements for calculating CV. If an asterisk is present and the CV equals zero, then neither day had sufficient number of samples to calculate CV. It follows then, anytime an asterisk is present for any of the methods, the totals for the month are questionable.

In the offshore expansion reports, average monthly catch per unit of effort (CPUE) is calculated by using the same type of algorithm as for the other expansion elements, and it has an associated CV. First, the average daily CPUE is calculated by dividing the total weight of the fish sampled for a day by the total number of hours fished to produce that catch. Next, the average weekday and weekend-holiday CPUE's are calculated by summing the average daily CPUE's for each type of day and then dividing by the number of survey days for each type of day. These averages are multiplied by the number of weekdays and weekend-holidays, respectively, in that month, then the products are summed and divided by the total number of days in the month to produce the average monthly CPUE for each offshore fishing method. The average monthly offshore CPUE could also be calculated by dividing the estimated monthly catch by the estimated monthly boat hours, but this would provide no indication of the variability of the CPUE and also essentially weight the average CPUE by the level of participation. However, for the inshore fisheries, which have a much lower number of creel interviews, the average monthly CPUE by fishing method is calculated by combining catch and effort information over a large timespan and, therefore, does not have an associated CV. Thus, the CPUE's for inshore fishing methods are calculated by dividing the sum of the catch by the sum of the gear-hours for whatever time period is included in the expansion.

Offshore species composition reports provide estimated landings and percent species composition for each species or species group for the two major offshore fishing methods, trolling and bottom fishing; a total for all other methods combined; and an overall total for all methods. The combined offshore-inshore and inshore species composition reports provide the statistics only for all methods combined.

The reports for the 1985 and 1986 Annual Mariana's Fishing Derbies include derby and species totals by day for a variety of

catch and effort statistics. Seven major pelagic species are targeted during the derby, including billfish (primarily blue marlin but also sailfish, spearfish, and black marlin), yellowfin tuna, skipjack tuna, mahimahi, wahoo, rainbow runner, and barracuda. Most effort is directed at marlin, wahoo, and yellowfin tuna because prizes for these categories are the best. The daily average catch per boat trip ranged from about 22 to over 83 pounds, and daily landings of marlin ranged from 5 to 20. During the 1986 derby, a record 47 marlin weighing over 6,300 pounds were caught. This tournament continues to grow in popularity and is the biggest organized fishing event in Guam.

INTERPRETATION OF STATISTICS

The user is reminded again to pay heed to the precautions and assumptions identified earlier in this document, when making interpretations of or inferences from data reported in the tables and graphs. Remember also that neither the commercial landings summaries nor the creel summaries are based on a census of all the fishing activities, but on samples of those activities. Commercial landings reports are believed to include a high percentage of the actual commercial landings made on Guam. The creel survey expansion reports are based on surveys of the offshore and inshore fisheries conducted 4-6 times per month. One of the major factors in expanding the survey data into monthly and annual estimates is the use of proportionality constants to adjust for percent coverage of the surveys. The flexibility of the survey design allows for refinement of these constants as additional information is gained on Guam's fishing activities. If the constants are improved upon, the basic survey data can be re-expanded to create better overall estimates. However, the variability and species composition would not be expected to change since these statistics are strictly based on the actual survey information collected from the fishermen.

The creel survey reports in this section do not include estimates of catches made during the seasonal fisheries for bigeye scad and juvenile rabbitfish. Therefore, the user must remember to adjust estimates of the total inshore and combined inshore-offshore fisheries. Based on an admittedly small sample size, DAWR's best estimates of these seasonal fisheries for 1985 and 1986 are 14,000 and 8,000 pounds for juvenile rabbitfish and 66,000 and 68,000 pounds for bigeye scad.

TABLES AND FIGURES

Table IV.1.1

GUAM 1985 ANNUAL COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
UNKNOWN	3	41.54	65.81	1.58
MISCELLANEOUS	18	629.48	714.52	1.14
BIGEYE SCAD (ATULAI)	331	25016.19	42950.78	1.72
JACKS	130	3724.07	5249.68	1.41
MULLET	5	149.50	269.10	1.80
SHARKS	4	237.00	140.80	0.59
MILKFISH	16	6900.00	12448.00	1.80
BOTTOM FISH	314	12590.08	24950.25	1.98
EHU (RED SNAPPER)	9	311.50	660.07	2.12
GINDAI (FLOWER SNAP)	14	525.00	1095.70	2.09
GROUPER	14	873.40	1064.45	1.22
KALIKALI (PINK SNAP)	8	459.00	918.00	2.00
LEHI (SILVERJAW)	13	606.75	1243.50	2.05
ONAGA (RED SNAPPER)	18	662.00	1748.00	2.64
OPAKAPAKA (PINK SNP)	13	554.25	1134.00	2.05
UKU (GRAY SNAPPER)	72	1710.05	2667.15	1.56
REEF FISH	493	17692.53	34104.92	1.93
GIANT WRASSE	8	357.27	493.66	1.38
RABBITFISH (HITTING)	13	259.55	460.43	1.77
RABBITFISH (MENAHAC)	6	574.50	1287.00	2.24
RABBITFISH (SESJUN)	5	409.00	658.50	1.61
RUDDERFISH (GUILLI)	7	363.27	698.36	1.92
EMPEROR (MAFUTE)	55	3478.25	6873.08	1.98
SQUIRRELFISH	1	82.50	144.38	1.75
PARROTFISH	15	583.75	856.70	1.47
SNAPPER	6	68.35	130.76	1.91
SURGEONFISH	2	100.50	178.35	1.77
UNICORNFISH	13	213.23	415.51	1.95
GOATFISH	2	72.00	142.00	1.97
TROLL FISH	5	219.50	310.66	1.42
BARRACUDA	236	3995.92	5358.39	1.34
DOLPHIN (MAHIMAHI)	676	45828.44	85041.93	1.86
MARLIN	117	20537.00	18322.93	0.89
SPEARFISH	2	44.00	60.50	1.38
SAILFISH	7	354.50	406.00	1.15
RAINBOW RUNNER	71	816.95	1256.60	1.54
WAHOO	1158	65040.34	116405.46	1.79
SKIPJACK TUNA	820	26724.87	24050.52	0.90
DOGTOOTH TUNA	177	5980.77	8515.48	1.42
YELLOWFIN TUNA	895	44395.04	77002.43	1.73
KAWAKAWA	1	5.00	4.00	0.80
INVERTEBRATES	1	16.00	43.20	2.70

Table IV.1.1 (Cont)

GUAM 1985 ANNUAL COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
CRABS	1	4.00	4.00	1.00
COCONUT CRAB	4	50.22	168.38	3.35
LOBSTER	112	1391.90	4275.50	3.07
OCTOPUS	35	338.35	650.79	1.92
SHRIMP (SALTWATER)	10	195.44	974.95	4.99
SHRIMP (FRESHWATER)	2	46.20	233.00	5.04
SQUID	1	19.00	35.15	1.85
IMPORTED	11	1375.61	2365.86	1.72
** TOTAL **	5950	296623.56	489249.19	

Table IV.1.2

GUAM JANUARY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	2	58.50	106.50	1.82
BIGEYE SCAD (ATULAI)	32	1963.50	2752.23	1.40
JACKS	8	159.75	311.56	1.95
MULLET	2	85.50	153.90	1.80
MILKFISH	2	1400.00	2520.00	1.80
BOTTOM FISH	24	901.25	1794.99	1.99
EHU (RED SNAPPER)	1	5.50	11.00	2.00
GROUPER	2	3.50	7.00	2.00
LEHI (SILVERJAW)	1	6.75	13.50	2.00
OPAKAPAKA (PINK SNP)	2	31.75	63.50	2.00
UKU (GRAY SNAPPER)	5	62.25	124.50	2.00
REEF FISH	38	1210.36	2401.82	1.98
RABBITFISH (HITTING)	1	10.00	20.00	2.00
RABBITFISH (SESJUN)	1	14.00	21.00	1.50
RUDDERFISH (GUILLI)	1	2.75	5.50	2.00
EMPEROR (MAFUTE)	8	230.75	461.50	2.00
PARROTFISH	2	19.50	37.20	1.91
SNAPPER	2	20.60	41.20	2.00
UNICORNFISH	7	112.75	224.13	1.99
TROLL FISH	1	56.50	104.53	1.85
BARRACUDA	30	385.00	516.82	1.34
DOLPHIN (MAHIMAHI)	110	7866.00	14552.06	1.85
MARLIN	1	122.00	152.50	1.25
RAINBOW RUNNER	7	55.50	89.44	1.61
WAHOO	99	4256.24	7846.85	1.84
SKIPJACK TUNA	56	2664.50	3221.32	1.21
DOGTOOTH TUNA	9	145.25	192.89	1.33
YELLOWFIN TUNA	63	3258.50	5967.01	1.83
CRABS	1	4.00	4.00	1.00
LOBSTER	1	2.75	9.62	3.50
OCTOPUS	2	9.25	13.87	1.50
SHRIMP (FRESHWATER)	2	46.20	233.00	5.04
** SUBTOTAL **	523	25170.65	43974.94	

Table IV.1.3

GUAM FEBRUARY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	49	3539.26	5334.98	1.51
JACKS	2	132.00	214.50	1.63
MULLET	1	36.00	64.80	1.80
SHARKS	1	44.00	44.00	1.00
MILKFISH	3	1260.00	2268.00	1.80
BOTTOM FISH	7	313.83	627.66	2.00
EHU (RED SNAPPER)	1	46.50	93.00	2.00
REEF FISH	17	509.25	974.40	1.91
EMPEROR (MAFUTE)	4	270.50	541.00	2.00
UNICORNFISH	3	15.48	28.18	1.82
BARRACUDA	27	294.00	415.00	1.41
DOLPHIN (MAHIMAHI)	126	13020.49	23415.53	1.80
MARLIN	3	267.00	333.75	1.25
RAINBOW RUNNER	2	23.50	45.50	1.94
WAHOO	75	3619.00	6625.80	1.83
SKIPJACK TUNA	37	658.50	651.93	0.99
DOGTOOTH TUNA	12	205.50	304.75	1.48
YELLOWFIN TUNA	37	1074.50	1701.34	1.58
** SUBTOTAL **	407	25329.31	43684.12	

Table IV.1.4

GUAM MARCH 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
UNKNOWN	1	30.00	45.00	1.50
BIGEYE SCAD (ATULAI)	34	4092.00	7988.50	1.95
JACKS	1	23.00	34.50	1.50
MULLET	2	28.00	50.40	1.80
MILKFISH	5	2380.00	4312.00	1.81
BOTTOM FISH	2	11.75	23.50	2.00
GROUPER	1	46.00	69.00	1.50
LEHI (SILVERJAW)	1	10.00	20.00	2.00
UKU (GRAY SNAPPER)	1	9.00	18.00	2.00
REEF FISH	86	3308.99	6629.28	2.00
GIANT WRASSE	2	169.25	253.88	1.50
RABBITFISH (SESJUN)	4	395.00	637.50	1.61
EMPEROR (MAFUTE)	2	81.00	162.00	2.00
SURGEONFISH	1	46.00	96.60	2.10
TROLL FISH	1	5.00	7.50	1.50
BARRACUDA	15	125.19	186.77	1.49
DOLPHIN (MAHIMAHI)	137	13245.33	24117.22	1.82
MARLIN	5	245.50	319.47	1.30
SPEARFISH	1	22.00	27.50	1.25
SAILFISH	1	30.00	45.00	1.50
RAINBOW RUNNER	4	18.50	27.75	1.50
WAHOO	81	4086.60	7577.78	1.85
SKIPJACK TUNA	38	641.99	665.37	1.04
DOGTOOTH TUNA	13	357.02	537.98	1.51
YELLOWFIN TUNA	54	2001.20	3221.65	1.61
INVERTEBRATES	1	16.00	43.20	2.70
LOBSTER	26	201.35	690.75	3.43
OCTOPUS	1	1.00	1.75	1.75
SHRIMP (SALTWATER)	2	68.00	381.50	5.61
IMPORTED	9	1184.61	1835.46	1.55
** SUBTOTAL **	532	32879.28	60026.81	

Table IV.1.5

GUAM APRIL 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	2	17.50	26.25	1.50
BIGEYE SCAD (ATULAI)	26	2151.40	3789.65	1.76
JACKS	5	82.94	130.38	1.57
SHARKS	1	56.00	42.00	0.75
BOTTOM FISH	31	1036.95	2086.90	2.01
GINDAI (FLOWER SNAP)	1	18.25	36.50	2.00
GROUPER	1	36.00	66.60	1.85
ONAGA (RED SNAPPER)	1	76.50	229.50	3.00
UKU (GRAY SNAPPER)	3	123.50	247.00	2.00
REEF FISH	78	2635.45	5172.64	1.96
GIANT WRASSE	1	20.50	41.00	2.00
RABBITFISH (HITTING)	1	19.00	38.00	2.00
EMPEROR (MAFUTE)	6	355.25	710.50	2.00
PARROTFISH	2	86.25	147.75	1.71
SNAPPER	1	24.00	48.00	2.00
BARRACUDA	20	171.82	248.99	1.45
DOLPHIN (MAHIMAHI)	123	7002.50	13993.31	2.00
MARLIN	8	1236.00	1403.63	1.14
SPEARFISH	1	22.00	33.00	1.50
RAINBOW RUNNER	6	32.95	49.43	1.50
WAHOO	113	6225.00	12440.85	2.00
SKIPJACK TUNA	77	2335.01	2632.68	1.13
DOGTOOTH TUNA	23	637.25	910.31	1.43
YELLOWFIN TUNA	60	2105.50	4039.97	1.92
LOBSTER	14	89.41	292.97	3.28
OCTOPUS	3	17.87	35.47	1.98
SHRIMP (SALTWATER)	2	47.50	289.75	6.10
** SUBTOTAL **	610	26662.30	49183.03	

Table IV.1.6

GUAM MAY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	2	132.50	119.50	0.90
BIGEYE SCAD (ATULAI)	53	2970.20	5863.94	1.97
JACKS	17	305.90	469.65	1.54
BOTTOM FISH	49	2581.30	5162.60	2.00
EHU (RED SNAPPER)	2	68.75	148.69	2.16
GINDAI (FLOWER SNAP)	1	54.50	122.63	2.25
GROUPER	1	34.00	51.00	1.50
KALIKALI (PINK SNAP)	1	113.50	227.00	2.00
LEHI (SILVERJAW)	2	65.00	130.00	2.00
ONAGA (RED SNAPPER)	2	29.50	79.00	2.68
OPAKAPAKA (PINK SNP)	1	20.50	51.25	2.50
UKU (GRAY SNAPPER)	8	181.00	274.75	1.52
REEF FISH	50	1447.58	2851.74	1.97
RABBITFISH (HITTING)	1	17.25	34.50	2.00
RABBITFISH (MENAHAC)	5	549.50	1212.00	2.21
RUDDERFISH (GUILLI)	1	3.02	6.04	2.00
EMPEROR (MAFUTE)	7	434.00	868.00	2.00
SURGEONFISH	1	54.50	81.75	1.50
UNICORNFISH	1	19.00	38.00	2.00
BARRACUDA	33	783.50	1093.06	1.40
DOLPHIN (MAHIMAHI)	42	1423.95	2706.15	1.90
MARLIN	11	1782.50	1761.21	0.99
SAILFISH	1	30.50	45.75	1.50
RAINBOW RUNNER	10	81.75	121.25	1.48
WAHOO	79	3130.25	5774.76	1.84
SKIPJACK TUNA	93	4357.62	3534.62	0.81
DOGTOOTH TUNA	31	820.75	1061.20	1.29
YELLOWFIN TUNA	88	4937.75	9138.31	1.85
LOBSTER	10	109.79	340.62	3.10
OCTOPUS	2	9.95	23.85	2.40
** SUBTOTAL **	605	26549.81	43392.82	

Table IV.1.7

GUAM JUNE 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
UNKNOWN	2	11.54	20.81	1.80
MISCELLANEOUS	1	14.98	26.20	1.75
BIGEYE SCAD (ATULAI)	42	3244.13	6121.10	1.89
JACKS	23	691.02	931.33	1.35
BOTTOM FISH	37	1735.14	3457.38	1.99
EHU (RED SNAPPER)	3	53.25	102.88	1.93
GINDAI (FLOWER SNAP)	5	199.25	430.57	2.16
GROUPER	5	734.00	838.25	1.14
KALIKALI (PINK SNAP)	2	210.50	421.00	2.00
LEHI (SILVERJAW)	3	53.50	109.87	2.05
ONAGA (RED SNAPPER)	4	144.00	409.50	2.84
OPAKAPAKA (PINK SNP)	2	46.00	112.50	2.45
UKU (GRAY SNAPPER)	6	186.00	279.00	1.50
REEF FISH	41	1818.17	3428.29	1.89
GIANT WRASSE	2	23.52	35.28	1.50
RABBITFISH (HITTING)	1	1.00	1.50	1.50
RABBITFISH (MENAHAC)	1	25.00	75.00	3.00
EMPEROR (MAFUTE)	7	370.25	734.63	1.98
PARROTFISH	2	120.50	214.00	1.78
SNAPPER	2	13.75	24.06	1.75
GOATFISH	1	32.00	64.00	2.00
TROLL FISH	1	147.00	183.75	1.25
BARRACUDA	22	517.09	636.33	1.23
DOLPHIN (MAHIMAHI)	3	88.25	176.50	2.00
MARLIN	6	1231.00	1054.80	0.86
SAILFISH	1	118.50	118.50	1.00
RAINBOW RUNNER	2	41.50	62.25	1.50
WAHOO	39	1356.46	2709.85	2.00
SKIPJACK TUNA	79	3211.55	2634.14	0.82
DOGTOOTH TUNA	25	1355.25	1798.23	1.33
YELLOWFIN TUNA	68	3484.75	6240.11	1.79
LOBSTER	20	323.82	947.21	2.93
OCTOPUS	3	17.43	34.86	2.00
** SUBTOTAL **	461	21620.10	34433.68	

Table IV.1.8

GUAM JULY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1	24.00	36.00	1.50
BIGEYE SCAD (ATULAI)	37	2665.43	4528.33	1.70
JACKS	27	911.00	1221.88	1.34
SHARKS	1	27.00	10.80	0.40
MILKFISH	2	630.00	1134.00	1.80
BOTTOM FISH	42	1486.74	2910.55	1.96
EHU (RED SNAPPER)	1	118.00	265.50	2.25
GINDAI (FLOWER SNAP)	2	64.00	128.00	2.00
GROUPER	1	2.00	3.00	1.50
KALIKALI (PINK SNAP)	2	22.00	44.00	2.00
LEHI (SILVERJAW)	2	266.00	532.00	2.00
ONAGA (RED SNAPPER)	5	102.00	255.00	2.50
OPAKAPAKA (PINK SNP)	2	135.50	271.00	2.00
UKU (GRAY SNAPPER)	15	569.55	854.33	1.50
REEF FISH	69	2674.60	5105.94	1.91
GIANT WRASSE	1	26.00	32.50	1.25
RABBITFISH (HITTING)	5	47.80	76.43	1.60
EMPEROR (MAFUTE)	9	595.00	1190.00	2.00
PARROTFISH	2	118.00	155.00	1.31
SNAPPER	1	10.00	17.50	1.75
UNICORNFISH	1	32.00	64.00	2.00
TROLL FISH	1	6.50	8.13	1.25
BARRACUDA	18	384.75	484.21	1.26
DOLPHIN (MAHIMAHI)	8	114.25	228.50	2.00
MARLIN	13	2891.50	2395.18	0.83
SAILFISH	1	18.50	27.75	1.50
RAINBOW RUNNER	13	203.75	329.08	1.62
WAHOO	45	2085.25	4166.45	2.00
SKIPJACK TUNA	87	2479.05	2127.13	0.86
DOGTOOTH TUNA	24	1067.50	1641.91	1.54
YELLOWFIN TUNA	104	7353.25	13231.73	1.80
KAWAKAWA	1	5.00	4.00	0.80
LOBSTER	19	260.12	780.36	3.00
OCTOPUS	4	36.11	82.66	2.29
** SUBTOTAL **	566	27432.15	44342.85	

Table IV.1.9

GUAM AUGUST 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	4	156.00	177.25	1.14
BIGEYE SCAD (ATULAI)	14	836.38	1503.87	1.80
JACKS	22	539.25	794.25	1.47
SHARKS	1	110.00	44.00	0.40
BOTTOM FISH	51	2415.50	4786.01	1.98
EHU (RED SNAPPER)	1	19.50	39.00	2.00
GINDAI (FLOWER SNAP)	4	152.00	304.00	2.00
GROUPER	2	10.50	18.50	1.76
KALIKALI (PINK SNAP)	2	57.50	115.00	2.00
LEHI (SILVERJAW)	1	82.00	164.00	2.00
ONAGA (RED SNAPPER)	3	277.50	693.75	2.50
OPAKAPAKA (PINK SNP)	3	116.50	227.75	1.95
UKU (GRAY SNAPPER)	17	301.25	453.33	1.50
REEF FISH	41	2148.98	3994.88	1.86
GIANT WRASSE	1	26.00	39.00	1.50
RABBITFISH (HITTING)	1	15.00	15.00	1.00
EMPEROR (MAFUTE)	5	594.00	1188.00	2.00
PARROTFISH	4	186.50	211.25	1.13
BARRACUDA	15	332.50	418.01	1.26
DOLPHIN (MAHIMAHI)	9	109.67	219.34	2.00
MARLIN	33	5500.75	4359.28	0.79
RAINBOW RUNNER	5	92.50	123.50	1.34
WAHOO	106	6231.25	12426.26	1.99
SKIPJACK TUNA	112	3677.04	2707.44	0.74
DOGTOOTH TUNA	8	351.75	570.83	1.62
YELLOWFIN TUNA	99	5790.50	9021.57	1.56
LOBSTER	17	317.69	953.06	3.00
OCTOPUS	7	111.61	208.34	1.87
** SUBTOTAL **	588	30559.62	45776.47	

Table IV.1.10

GUAM SEPTEMBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1	57.00	28.50	0.50
BIGEYE SCAD (ATULAI)	19	1222.75	1812.40	1.48
JACKS	12	614.38	743.95	1.21
MILKFISH	1	140.00	252.00	1.80
BOTTOM FISH	37	743.92	1446.01	1.94
GINDAI (FLOWER SNAP)	1	37.00	74.00	2.00
GROUPER	1	7.40	11.10	1.50
KALIKALI (PINK SNAP)	1	55.50	111.00	2.00
LEHI (SILVERJAW)	1	15.00	30.00	2.00
OPAKAPAKA (PINK SNP)	1	84.00	168.00	2.00
UKU (GRAY SNAPPER)	6	78.25	117.37	1.50
REEF FISH	21	673.00	1229.95	1.83
EMPEROR (MAFUTE)	6	479.50	881.45	1.84
SQUIRRELFISH	1	82.50	144.38	1.75
BARRACUDA	20	418.98	532.07	1.27
DOLPHIN (MAHIMAHI)	3	49.50	99.00	2.00
MARLIN	20	4131.00	2741.05	0.66
SAILFISH	2	109.00	109.00	1.00
RAINBOW RUNNER	4	25.50	40.25	1.58
WAHOO	98	8079.02	14785.60	1.83
SKIPJACK TUNA	85	2578.75	1985.96	0.77
DOGTOOTH TUNA	11	371.00	497.00	1.34
YELLOWFIN TUNA	105	5738.75	9172.58	1.60
COCONUT CRAB	2	30.50	91.50	3.00
LOBSTER	2	39.00	117.00	3.00
OCTOPUS	4	33.05	61.14	1.85
SQUID	1	19.00	35.15	1.85
IMPORTED	1	150.00	247.50	1.65
** SUBTOTAL **	467	26063.25	37564.91	

Table IV.1.11

GUAM OCTOBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	2	83.50	94.00	1.13
BIGEYE SCAD (ATULAI)	15	1160.14	1607.58	1.39
JACKS	5	80.46	121.12	1.51
MILKFISH	2	1020.00	1836.00	1.80
BOTTOM FISH	18	510.50	1001.25	1.96
ONAGA (RED SNAPPER)	1	9.50	23.75	2.50
OPAKAPAKA (PINK SNP)	2	120.00	240.00	2.00
UKU (GRAY SNAPPER)	8	147.00	220.50	1.50
REEF FISH	12	357.71	660.90	1.85
RABBITFISH (HITTING)	2	145.00	268.25	1.85
RUDDERFISH (GUILLI)	2	208.50	406.57	1.95
EMPEROR (MAFUTE)	1	68.00	136.00	2.00
PARROTFISH	1	13.00	19.50	1.50
BARRACUDA	10	153.00	229.49	1.50
DOLPHIN (MAHIMAHI)	13	247.25	494.50	2.00
MARLIN	6	1014.00	1157.38	1.14
RAINBOW RUNNER	6	103.00	155.90	1.51
WAHOO	67	3438.35	6532.03	1.90
SKIPJACK TUNA	42	1237.13	1152.45	0.93
DOGTOOTH TUNA	4	103.00	154.50	1.50
YELLOWFIN TUNA	52	2475.09	4110.74	1.66
LOBSTER	1	23.00	69.00	3.00
OCTOPUS	4	40.91	75.69	1.85
** SUBTOTAL **	276	12758.04	20767.10	

Table IV.1.12

GUAM NOVEMBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1	11.00	16.50	1.50
BIGEYE SCAD (ATULAI)	7	648.00	983.70	1.52
JACKS	3	124.50	186.75	1.50
BOTTOM FISH	11	541.00	1036.00	1.91
ONAGA (RED SNAPPER)	2	23.00	57.50	2.50
UKU (GRAY SNAPPER)	2	33.25	49.87	1.50
REEF FISH	19	431.50	790.19	1.83
RUDDERFISH (GUILLI)	3	149.00	280.25	1.88
PARROTFISH	2	40.00	72.00	1.80
UNICORNFISH	1	34.00	61.20	1.80
GOATFISH	1	40.00	78.00	1.95
BARRACUDA	17	324.34	453.14	1.40
DOLPHIN (MAHIMAHI)	53	1316.50	2407.56	1.83
MARLIN	5	1088.25	1360.31	1.25
RAINBOW RUNNER	8	100.00	154.50	1.55
WAHOO	211	13887.01	20229.69	1.46
SKIPJACK TUNA	64	1454.75	1414.00	0.97
DOGTOOTH TUNA	8	237.25	355.75	1.50
YELLOWFIN TUNA	88	2544.00	4444.74	1.75
COCONUT CRAB	2	19.72	76.88	3.90
LOBSTER	1	5.50	16.50	3.00
OCTOPUS	4	47.17	87.26	1.85
SHRIMP (SALTWATER)	5	49.94	249.70	5.00
** SUBTOTAL **	518	23149.68	34861.99	

Table IV.1.13

GUAM DECEMBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	2	74.50	83.82	1.13
BIGEYE SCAD (ATULAI)	3	523.00	664.50	1.27
JACKS	5	59.87	89.81	1.50
MILKFISH	1	70.00	126.00	1.80
BOTTOM FISH	5	312.20	617.40	1.98
LEHI (SILVERJAW)	2	108.50	244.13	2.25
UKU (GRAY SNAPPER)	1	19.00	28.50	1.50
REEF FISH	21	476.94	864.89	1.81
GIANT WRASSE	1	92.00	92.00	1.00
RABBITFISH (HITTING)	1	4.50	6.75	1.50
TROLL FISH	1	4.50	6.75	1.50
BARRACUDA	9	105.75	144.50	1.37
DOLPHIN (MAHIMAHI)	49	1344.75	2632.26	1.96
MARLIN	6	1027.50	1284.37	1.25
SAILFISH	1	48.00	60.00	1.25
RAINBOW RUNNER	4	38.50	57.75	1.50
WAHOO	145	8645.91	15289.54	1.77
SKIPJACK TUNA	50	1428.98	1323.48	0.93
DOGTOOTH TUNA	9	329.25	490.13	1.49
YELLOWFIN TUNA	77	3631.25	6712.68	1.85
LOBSTER	1	19.47	58.41	3.00
OCTOPUS	1	14.00	25.90	1.85
SHRIMP (SALTWATER)	1	30.00	54.00	1.80
IMPORTED	1	41.00	282.90	6.90
** SUBTOTAL **	397	18449.37	31240.47	
** 1985 TOTAL **	5950	296623.56	489249.19	

Figure IV.1.1

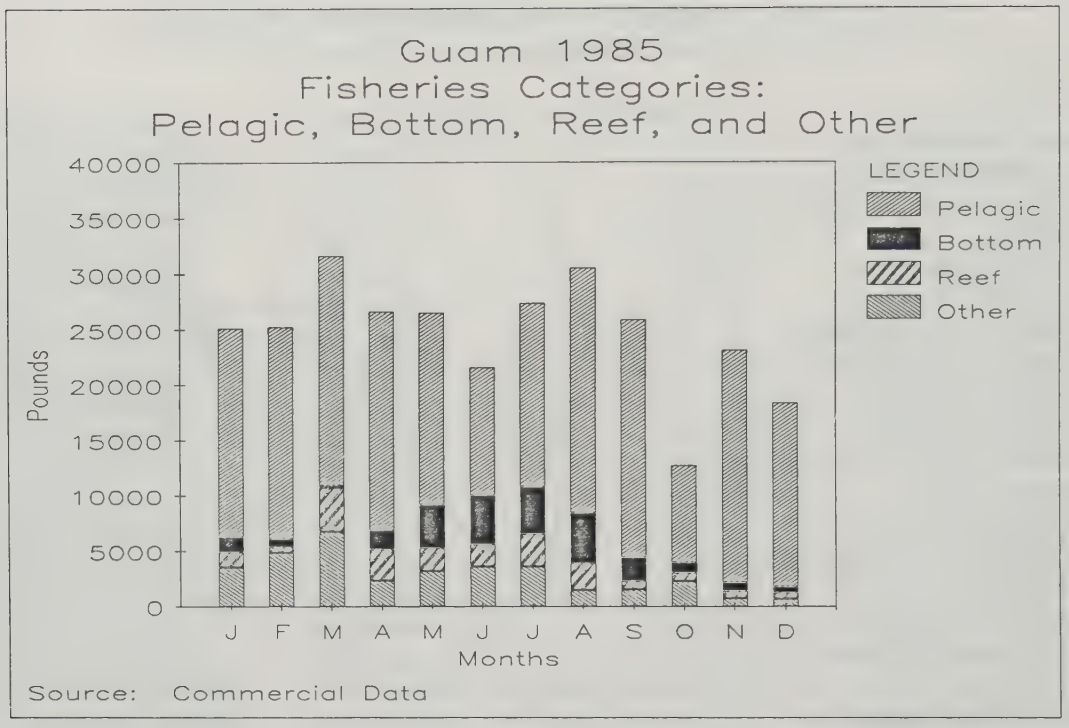


Figure IV.1.2

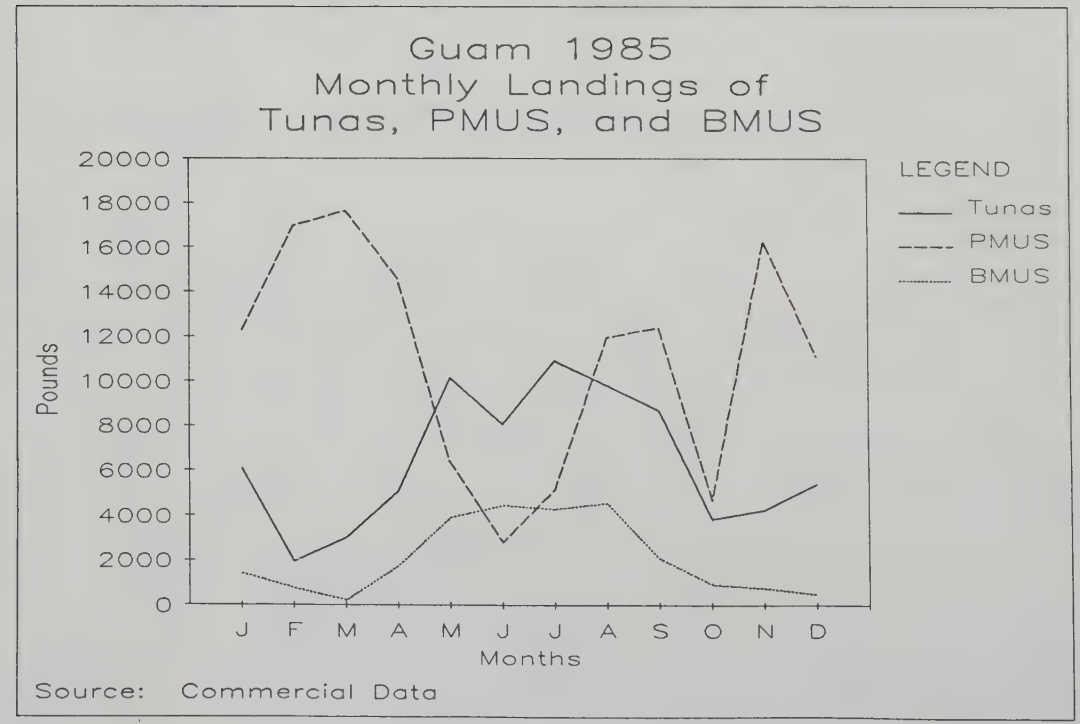


Figure IV.1.3

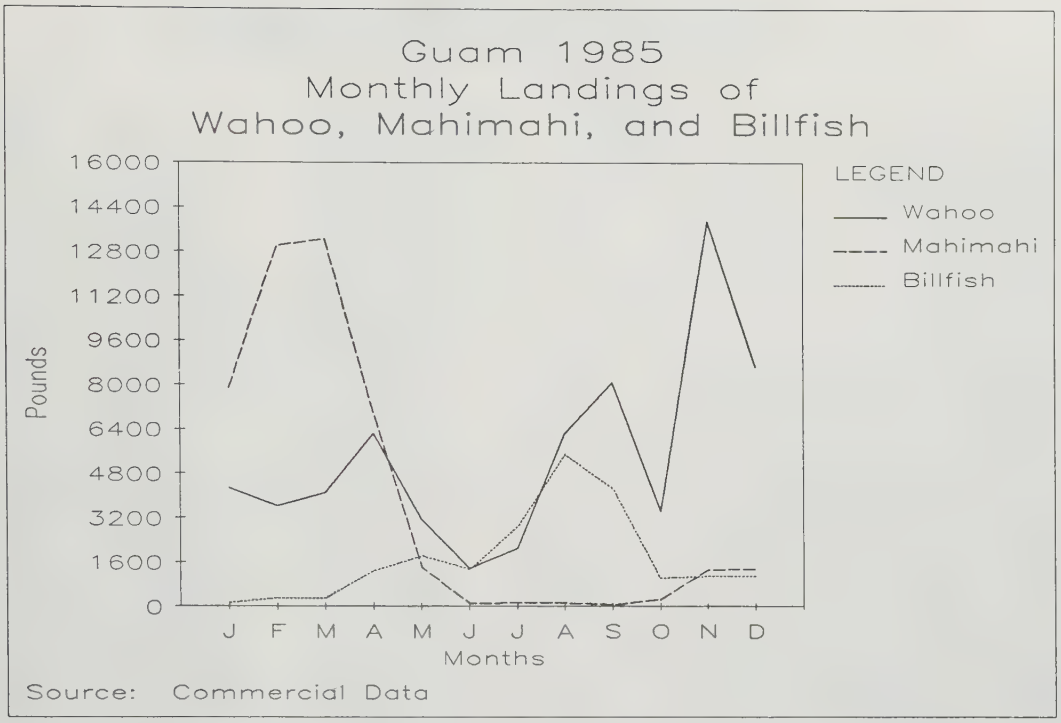


Figure IV.1.4

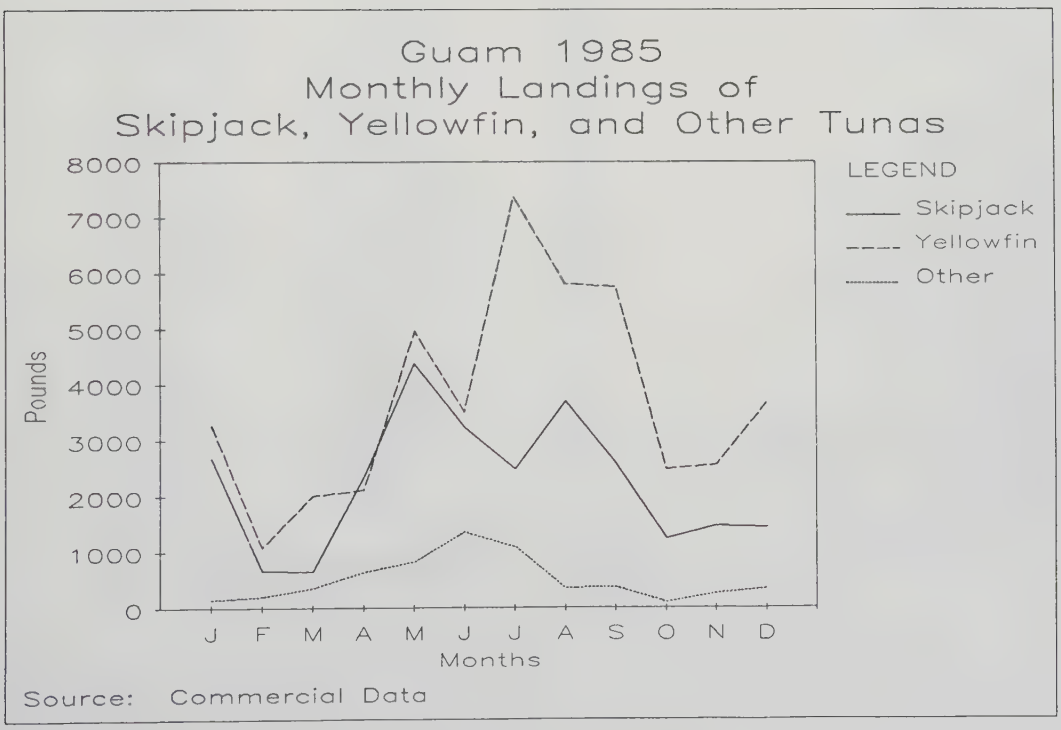


Table IV.2.1

GUAM 1986 ANNUAL COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	10	177.32	220.69	1.24
BIGEYE SCAD (ATULAI)	71	4346.05	8181.88	1.88
JACKS	97	2668.21	3691.12	1.38
SHARKS	9	493.50	277.25	0.56
MILKFISH	9	5361.00	9649.80	1.80
BOTTOM FISH	139	3885.05	7544.89	1.94
EHU (RED SNAPPER)	13	364.50	812.15	2.23
GINDAI (FLOWER SNAP)	18	646.75	1398.57	2.16
GROUPER	8	588.40	728.46	1.24
KALIKALI (PINK SNAP)	9	316.00	607.13	1.92
LEHI (SILVERJAW)	14	522.25	1129.56	2.16
ONAGA (RED SNAPPER)	10	170.50	452.01	2.65
OPAKAPAKA (PINK SNP)	15	553.10	1201.08	2.17
UKU (GRAY SNAPPER)	28	538.50	820.25	1.52
REEF FISH	372	11842.63	23138.72	1.95
RABBITFISH (HITTING)	8	94.85	176.65	1.86
RABBITFISH (SESJUN)	2	7.00	12.25	1.75
EMPEROR (MAFUTE)	19	616.15	1232.30	2.00
SQUIRRELFISH	1	124.50	186.75	1.50
PARROTFISH	11	211.44	386.88	1.83
SNAPPER	3	29.45	46.52	1.58
UNICORNFISH	2	27.00	52.00	1.93
GOATFISH	1	21.50	32.25	1.50
TROLL FISH	4	103.00	154.50	1.50
BARRACUDA	195	3661.44	5343.58	1.46
DOLPHIN (MAHIMAHI)	1147	63243.76	101602.46	1.61
MARLIN	315	37906.80	35149.67	0.93
SPEARFISH	1	23.00	28.75	1.25
SAILFISH	19	959.75	1359.12	1.42
RAINBOW RUNNER	51	878.00	1313.37	1.50
WAHOO	772	39012.12	75626.26	1.94
SKIPJACK TUNA	744	24143.97	23028.98	0.95
DOGTOOTH TUNA	143	5322.79	7435.22	1.40
YELLOWFIN TUNA	629	27775.94	50140.41	1.81
KONA CRAB	1	8.06	38.69	4.80
COCONUT CRAB	2	37.67	150.68	4.00
LOBSTER	19	285.42	856.26	3.00
OCTOPUS	21	356.19	728.37	2.04
SHRIMP (SALTWATER)	11	111.90	601.50	5.38
IMPORTED	1	77.00	134.75	1.75
** TOTAL **	4944	237512.46	365671.73	

Table IV.2.2

GUAM JANUARY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
JACKS	6	151.75	233.69	1.54
MILKFISH	1	756.00	1360.80	1.80
BOTTOM FISH	11	351.64	692.79	1.97
GINDAI (FLOWER SNAP)	1	48.00	108.00	2.25
GROUPER	1	26.00	39.00	1.50
LEHI (SILVERJAW)	1	10.25	23.06	2.25
UKU (GRAY SNAPPER)	1	25.00	31.25	1.25
REEF FISH	17	434.00	806.24	1.86
PARROTFISH	2	50.00	95.00	1.90
BARRACUDA	20	258.50	387.76	1.50
DOLPHIN (MAHIMAHI)	150	7347.50	14354.80	1.95
MARLIN	3	431.50	539.38	1.25
RAINBOW RUNNER	3	29.50	44.25	1.50
WAHOO	79	4045.75	8075.17	2.00
SKIPJACK TUNA	47	1420.50	1497.78	1.05
DOGTOOTH TUNA	12	210.25	309.75	1.47
YELLOWFIN TUNA	67	2173.75	3851.47	1.77
OCTOPUS	1	8.90	15.58	1.75
** SUBTOTAL **	423	17778.79	32465.77	

Table IV.2.3

GUAM FEBRUARY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1	4.82	9.64	2.00
BIGEYE SCAD (ATULAI)	1	108.02	216.04	2.00
JACKS	3	83.00	124.50	1.50
BOTTOM FISH	16	496.00	990.38	2.00
EHU (RED SNAPPER)	1	102.00	229.50	2.25
GROUPER	1	27.50	50.87	1.85
LEHI (SILVERJAW)	1	27.00	60.75	2.25
OPAKAPAKA (PINK SNP)	1	10.75	24.18	2.25
UKU (GRAY SNAPPER)	5	124.00	189.25	1.53
REEF FISH	16	519.50	1021.75	1.97
EMPEROR (MAFUTE)	4	152.20	304.40	2.00
PARROTFISH	2	18.94	37.88	2.00
GOATFISH	1	21.50	32.25	1.50
TROLL FISH	1	14.00	21.00	1.50
BARRACUDA	34	738.25	1107.37	1.50
DOLPHIN (MAHIMAHI)	295	13513.90	23058.17	1.71
MARLIN	8	548.50	714.62	1.30
SPEARFISH	1	23.00	28.75	1.25
SAILFISH	2	101.00	126.25	1.25
RAINBOW RUNNER	4	33.50	50.25	1.50
WAHOO	146	11941.75	23759.61	1.99
SKIPJACK TUNA	64	1524.75	1453.80	0.95
DOGTOOTH TUNA	18	355.00	515.86	1.45
YELLOWFIN TUNA	48	1097.25	1692.37	1.54
COCONUT CRAB	1	13.26	53.04	4.00
OCTOPUS	1	11.09	19.40	1.75
** SUBTOTAL **	676	31610.48	55891.88	

Table IV.2.4

GUAM MARCH 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	2	25.00	45.65	1.83
BIGEYE SCAD (ATULAI)	1	14.50	29.00	2.00
JACKS	3	46.00	69.00	1.50
BOTTOM FISH	8	585.25	1046.25	1.79
EHU (RED SNAPPER)	2	41.50	93.37	2.25
GINDAI (FLOWER SNAP)	1	115.00	230.00	2.00
GROUPER	1	71.00	106.50	1.50
LEHI (SILVERJAW)	2	128.00	288.00	2.25
ONAGA (RED SNAPPER)	2	25.00	67.25	2.69
OPAKAPAKA (PINK SNP)	1	68.50	171.25	2.50
REEF FISH	10	199.82	389.71	1.95
EMPEROR (MAFUTE)	1	2.95	5.90	2.00
SNAPPER	2	27.00	41.62	1.54
BARRACUDA	13	235.50	353.25	1.50
DOLPHIN (MAHIMAHI)	228	16259.61	25845.40	1.59
MARLIN	7	694.00	867.48	1.25
SAILFISH	2	133.00	199.50	1.50
RAINBOW RUNNER	2	15.25	22.87	1.50
WAHOO	87	5953.75	11438.55	1.92
SKIPJACK TUNA	28	733.50	752.75	1.03
DOGTOOTH TUNA	7	123.00	184.50	1.50
YELLOWFIN TUNA	23	459.75	737.86	1.60
CRABS	1	8.06	38.69	4.80
OCTOPUS	1	11.00	55.00	5.00
SHRIMP (SALTWATER)	4	26.52	132.60	5.00
IMPORTED	1	77.00	134.75	1.75
** SUBTOTAL **	440	26079.46	43346.70	

Table IV.2.5

GUAM APRIL 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	3	284.00	960.80	3.38
JACKS	15	440.75	599.91	1.36
MILKFISH	1	490.00	882.00	1.80
BOTTOM FISH	13	323.75	644.75	1.99
GINDAI (FLOWER SNAP)	2	57.00	128.25	2.25
GROUPER	1	60.50	75.62	1.25
LEHI (SILVERJAW)	1	8.00	18.00	2.25
OPAKAPAKA (PINK SNP)	1	12.50	28.12	2.25
UKU (GRAY SNAPPER)	2	28.50	42.75	1.50
REEF FISH	28	860.50	1711.50	1.99
BARRACUDA	8	70.00	105.00	1.50
DOLPHIN (MAHIMAHI)	182	17307.75	23913.33	1.38
MARLIN	8	836.00	1003.87	1.20
SAILFISH	3	182.00	273.00	1.50
RAINBOW RUNNER	1	11.00	16.50	1.50
WAHOO	53	2067.65	3726.55	1.80
SKIPJACK TUNA	31	966.50	969.87	1.00
DOGTOOTH TUNA	13	561.75	836.92	1.49
YELLOWFIN TUNA	20	527.00	866.99	1.65
LOBSTER	1	10.00	30.00	3.00
SHRIMP (SALTWATER)	5	52.16	260.80	5.00
** SUBTOTAL **	392	25157.31	37094.53	

Table IV.2.6

GUAM MAY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	4	36.00	45.75	1.27
BIGEYE SCAD (ATULAI)	6	503.00	983.20	1.95
JACKS	9	600.00	771.88	1.29
BOTTOM FISH	13	314.00	617.71	1.97
EHU (RED SNAPPER)	4	67.50	146.62	2.17
GINDAI (FLOWER SNAP)	4	105.50	227.62	2.16
GROUPER	2	261.90	272.35	1.04
KALIKALI (PINK SNAP)	4	81.50	148.63	1.82
LEHI (SILVERJAW)	5	167.00	355.38	2.13
ONAGA (RED SNAPPER)	3	78.00	209.50	2.69
OPAKAPAKA (PINK SNP)	5	376.50	787.12	2.09
UKU (GRAY SNAPPER)	6	177.00	265.50	1.50
REEF FISH	43	1483.02	2954.02	1.99
RABBITFISH (HITTING)	2	53.00	102.70	1.94
EMPEROR (MAFUTE)	1	31.50	63.00	2.00
BARRACUDA	23	431.50	556.00	1.29
DOLPHIN (MAHIMAHI)	139	5189.25	7837.03	1.51
MARLIN	27	3170.55	3571.77	1.13
SAILFISH	3	135.75	194.12	1.43
RAINBOW RUNNER	4	149.50	224.25	1.50
WAHOO	79	2308.50	3919.66	1.70
SKIPJACK TUNA	96	2996.50	2781.86	0.93
DOGTOOTH TUNA	21	1331.73	1829.59	1.37
YELLOWFIN TUNA	65	1779.55	2786.95	1.57
COCONUT CRAB	1	24.41	97.64	4.00
LOBSTER	1	16.00	48.00	3.00
** SUBTOTAL **	570	21868.66	31797.85	

Table IV.2.7

GUAM JUNE 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	4	173.00	342.40	1.98
JACKS	14	504.50	633.50	1.26
SHARKS	1	8.00	12.00	1.50
MILKFISH	1	420.00	756.00	1.80
BOTTOM FISH	14	234.00	442.24	1.89
EHU (RED SNAPPER)	3	33.50	72.67	2.17
GINDAI (FLOWER SNAP)	4	137.25	302.05	2.20
KALIKALI (PINK SNAP)	5	234.50	458.50	1.96
LEHI (SILVERJAW)	2	107.50	235.37	2.19
ONAGA (RED SNAPPER)	2	20.50	50.75	2.48
OPAKAPAKA (PINK SNP)	3	46.85	104.91	2.24
UKU (GRAY SNAPPER)	5	60.50	90.75	1.50
REEF FISH	65	1548.76	2985.94	1.93
RABBITFISH (HITTING)	4	29.85	52.70	1.77
RABBITFISH (SESJUN)	1	3.50	5.25	1.50
EMPEROR (MAFUTE)	3	32.00	64.00	2.00
SQUIRRELFISH	1	124.50	186.75	1.50
PARROTFISH	2	25.50	34.50	1.35
SNAPPER	1	2.45	4.90	2.00
BARRACUDA	16	411.50	581.62	1.41
DOLPHIN (MAHIMAHI)	26	727.25	1338.87	1.84
MARLIN	53	5065.50	4056.75	0.80
SAILFISH	4	158.50	192.00	1.21
RAINBOW RUNNER	4	281.00	421.50	1.50
WAHOO	45	1100.25	2069.68	1.88
SKIPJACK TUNA	106	3158.75	2714.62	0.86
DOGTOOTH TUNA	17	1375.50	1775.75	1.29
YELLOWFIN TUNA	71	2750.00	4725.33	1.72
LOBSTER	9	189.67	569.01	3.00
** SUBTOTAL **	486	18964.58	25280.31	

Table IV.2.8

GUAM JULY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	2	52.00	30.40	0.58
BIGEYE SCAD (ATULAI)	16	981.50	1943.25	1.98
JACKS	14	174.50	261.75	1.50
SHARKS	3	163.50	95.50	0.58
MILKFISH	4	1855.00	3339.00	1.80
BOTTOM FISH	14	273.00	543.25	1.99
EHU (RED SNAPPER)	2	115.00	258.74	2.25
GINDAI (FLOWER SNAP)	4	92.50	192.75	2.08
LEHI (SILVERJAW)	1	29.00	58.00	2.00
OPAKAPAKA (PINK SNP)	2	19.50	43.87	2.25
UKU (GRAY SNAPPER)	2	11.00	16.50	1.50
REEF FISH	63	1912.15	3713.36	1.94
RABBITFISH (HITTING)	2	12.00	21.25	1.77
EMPEROR (MAFUTE)	1	24.00	48.00	2.00
PARROTFISH	4	98.00	191.00	1.95
UNICORNFISH	2	27.00	52.00	1.93
TROLL FISH	1	22.50	33.75	1.50
BARRACUDA	17	320.50	465.65	1.45
DOLPHIN (MAHIMAHI)	3	89.25	174.52	1.96
MARLIN	74	7777.75	5050.13	0.65
SAILFISH	1	40.00	60.00	1.50
RAINBOW RUNNER	4	26.50	39.75	1.50
WAHOO	33	850.75	1547.64	1.82
SKIPJACK TUNA	89	2148.00	1756.00	0.82
DOGTOOTH TUNA	10	229.00	322.00	1.41
YELLOWFIN TUNA	90	4827.75	8509.99	1.76
LOBSTER	3	18.00	54.00	3.00
OCTOPUS	6	89.20	191.89	2.15
SHRIMP (SALTWATER)	2	33.22	208.10	6.26
** SUBTOTAL **	469	22312.07	29222.04	

Table IV.2.9

GUAM AUGUST 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	19	746.03	1478.69	1.98
JACKS	12	231.61	350.43	1.51
MILKFISH	1	440.00	792.00	1.80
BOTTOM FISH	20	518.91	1036.20	2.00
EHU (RED SNAPPER)	1	5.00	11.25	2.25
OPAKAPAKA (PINK SNP)	1	4.00	9.00	2.25
UKU (GRAY SNAPPER)	2	16.00	24.00	1.50
REEF FISH	34	1542.83	3052.38	1.98
EMPEROR (MAFUTE)	6	254.00	508.00	2.00
TROLL FISH	2	66.50	99.75	1.50
BARRACUDA	16	298.50	444.89	1.49
DOLPHIN (MAHIMAHI)	3	226.00	138.00	0.61
MARLIN	37	3900.50	3382.25	0.87
SAILFISH	1	57.00	85.50	1.50
RAINBOW RUNNER	2	11.50	17.25	1.50
WAHOO	19	518.97	887.47	1.71
SKIPJACK TUNA	48	1833.59	1848.84	1.01
DOGTOOTH TUNA	10	323.06	488.35	1.51
YELLOWFIN TUNA	67	3419.89	6322.10	1.85
LOBSTER	5	51.75	155.25	3.00
OCTOPUS	4	98.50	184.40	1.87
** SUBTOTAL **	310	14564.14	21316.00	

Table IV.2.10

GUAM SEPTEMBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1	59.50	89.25	1.50
BIGEYE SCAD (ATULAI)	9	631.00	745.38	1.18
JACKS	8	114.85	172.28	1.50
SHARKS	2	84.00	50.75	0.60
BOTTOM FISH	21	531.00	1018.57	1.92
GINDAI (FLOWER SNAP)	1	29.00	53.65	1.85
GROUPER	2	141.50	184.12	1.30
LEHI (SILVERJAW)	1	45.50	91.00	2.00
ONAGA (RED SNAPPER)	2	22.00	49.51	2.25
OPAKAPAKA (PINK SNP)	1	14.50	32.63	2.25
UKU (GRAY SNAPPER)	3	26.50	39.75	1.50
REEF FISH	22	872.25	1721.92	1.97
EMPEROR (MAFUTE)	1	2.00	4.00	2.00
PARROTFISH	1	19.00	28.50	1.50
BARRACUDA	11	173.00	255.75	1.48
DOLPHIN (MAHIMAHI)	7	53.50	107.00	2.00
MARLIN	56	9493.50	9476.30	1.00
SAILFISH	2	85.00	127.50	1.50
RAINBOW RUNNER	7	94.25	137.75	1.46
WAHOO	24	1260.00	2520.00	2.00
SKIPJACK TUNA	102	3752.50	3083.25	0.82
DOGTOOTH TUNA	6	188.00	240.63	1.28
YELLOWFIN TUNA	52	3863.00	7243.60	1.88
OCTOPUS	3	41.50	79.10	1.91
** SUBTOTAL **	345	21596.85	27552.19	

Table IV.2.11

GUAM OCTOBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	5	281.50	528.75	1.88
JACKS	7	175.25	255.18	1.46
SHARKS	1	33.00	16.50	0.50
BOTTOM FISH	4	173.50	347.00	2.00
GINDAI (FLOWER SNAP)	1	62.50	156.25	2.50
ONAGA (RED SNAPPER)	1	25.00	75.00	3.00
UKU (GRAY SNAPPER)	1	62.00	108.50	1.75
REEF FISH	31	875.80	1685.10	1.92
EMPEROR (MAFUTE)	2	117.50	235.00	2.00
BARRACUDA	20	383.69	575.54	1.50
DOLPHIN (MAHIMAHI)	14	335.00	670.00	2.00
MARLIN	29	3938.00	3938.00	1.00
RAINBOW RUNNER	9	91.75	137.62	1.50
WAHOO	18	662.25	1324.50	2.00
SKIPJACK TUNA	31	1481.50	1481.50	1.00
DOGTOOTH TUNA	12	381.00	571.50	1.50
YELLOWFIN TUNA	30	1373.50	2541.89	1.85
OCTOPUS	3	60.00	111.00	1.85
** SUBTOTAL **	219	10512.74	14758.83	

Table IV.2.12

GUAM NOVEMBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	6	574.00	862.80	1.50
JACKS	2	45.00	67.50	1.50
SHARKS	2	205.00	102.50	0.50
BOTTOM FISH	5	84.00	165.75	1.97
UKU (GRAY SNAPPER)	1	8.00	12.00	1.50
REEF FISH	24	745.00	1454.53	1.95
BARRACUDA	7	103.50	155.25	1.50
DOLPHIN (MAHIMAHI)	66	1462.75	2701.34	1.85
MARLIN	10	1457.50	1658.87	1.14
SAILFISH	1	67.50	101.25	1.50
RAINBOW RUNNER	6	62.75	94.13	1.50
WAHOO	104	4088.00	7934.33	1.94
SKIPJACK TUNA	52	2173.00	2244.61	1.03
DOGTOOTH TUNA	9	138.00	207.00	1.50
YELLOWFIN TUNA	43	2405.50	4667.76	1.94
OCTOPUS	2	36.00	72.00	2.00
** SUBTOTAL **	340	13655.50	22501.62	

Table IV.2.13

GUAM DECEMBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	RECORDS	POUNDS	VALUE	AVE $/#
BIGEYE SCAD (ATULAI)	1	49.50	91.57	1.85
JACKS	4	101.00	151.50	1.50
MILKFISH	1	1400.00	2520.00	1.80
REEF FISH	19	849.00	1642.27	1.93
RABBITFISH (SESJUN)	1	3.50	7.00	2.00
BARRACUDA	10	237.00	355.50	1.50
DOLPHIN (MAHIMAHI)	34	732.00	1464.00	2.00
MARLIN	3	593.50	890.25	1.50
RAINBOW RUNNER	5	71.50	107.25	1.50
WAHOO	85	4214.50	8423.10	2.00
SKIPJACK TUNA	50	1954.88	2444.10	1.25
DOGTOOTH TUNA	8	106.50	153.37	1.44
YELLOWFIN TUNA	53	3099.00	6194.10	2.00
** SUBTOTAL **	274	13411.88	24444.01	
** 1986 TOTAL **	4944	237512.46	365671.73	

Figure IV.2.1

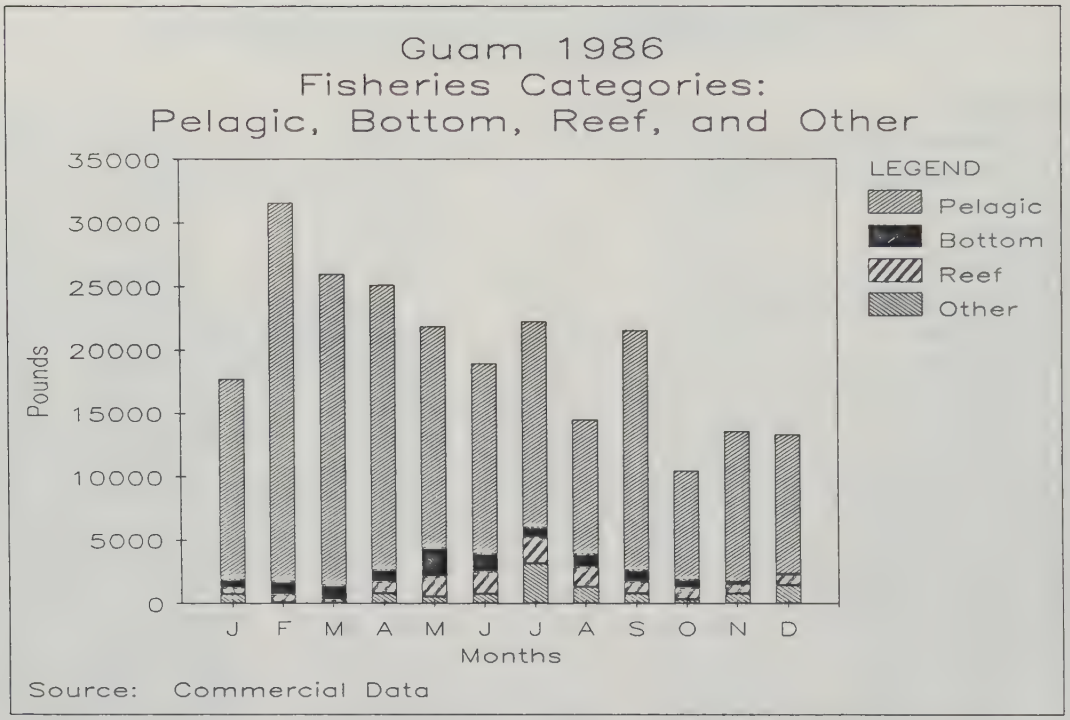


Figure IV.2.2

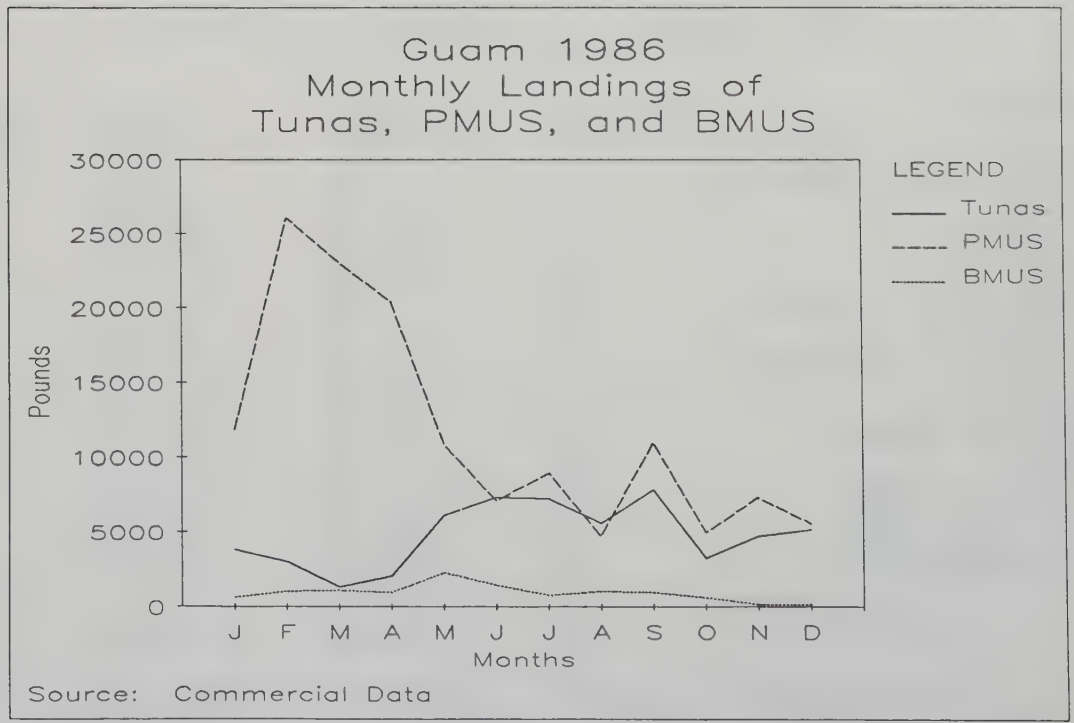


Figure IV.2.3

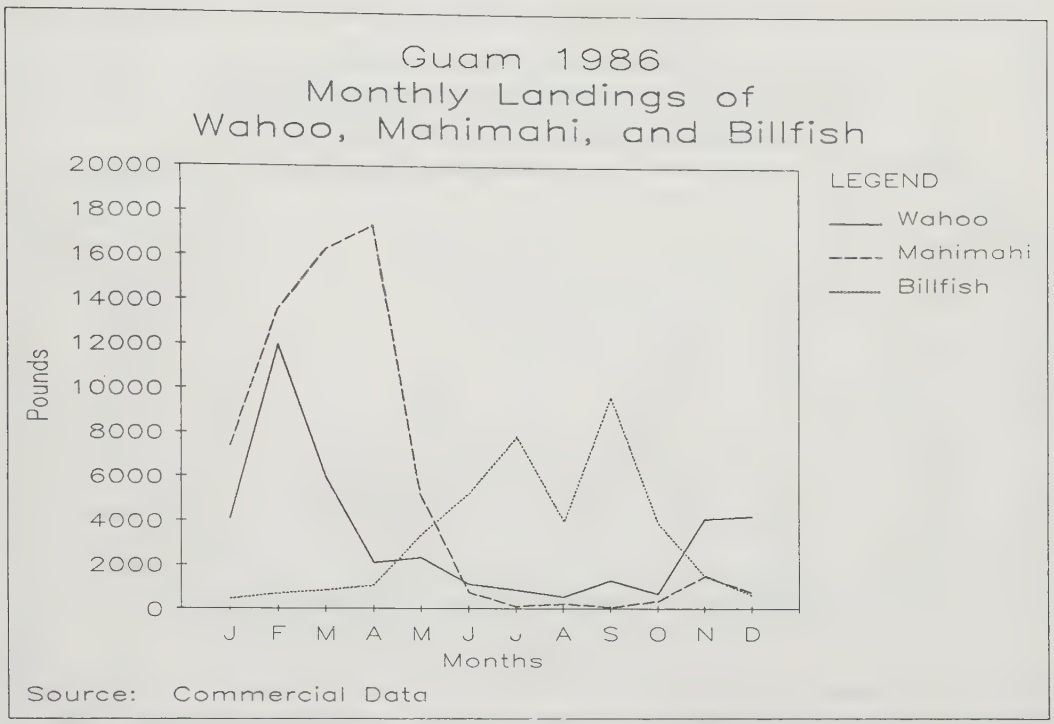


Figure IV.2.4

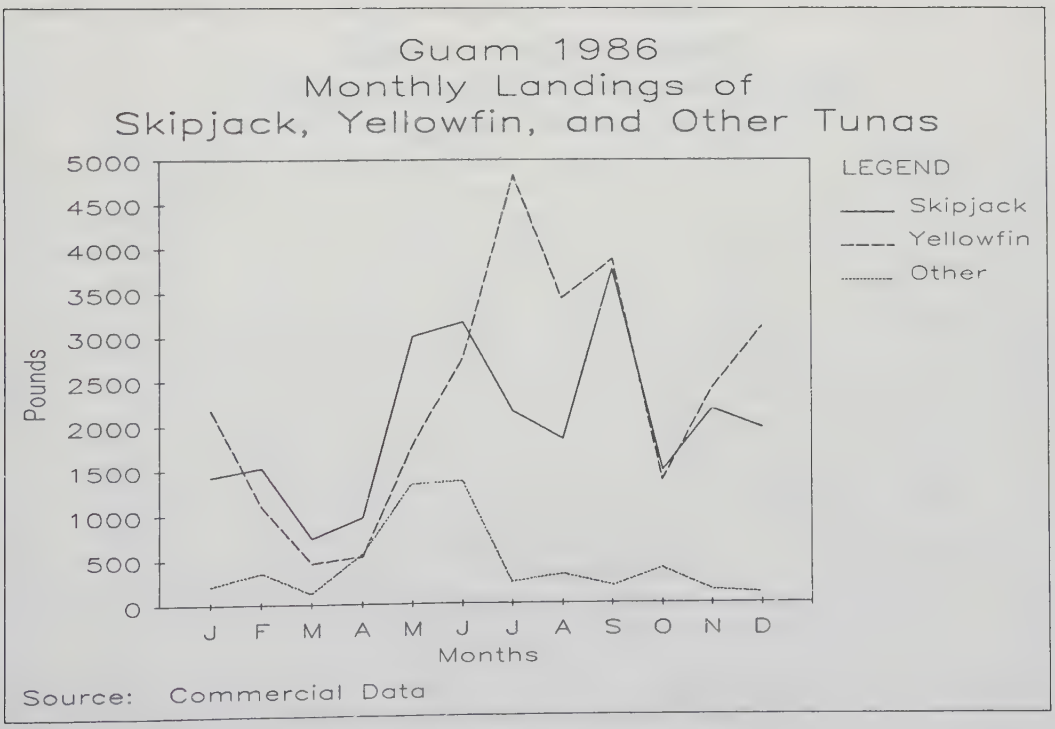


Figure IV.3.1

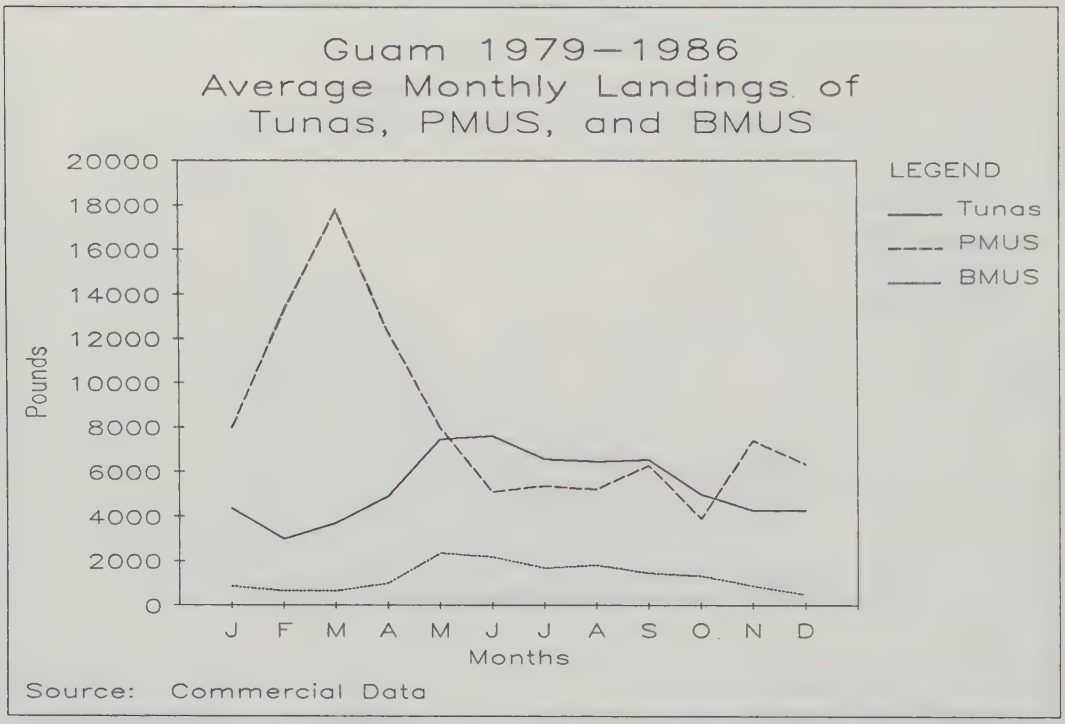


Figure IV.3.2

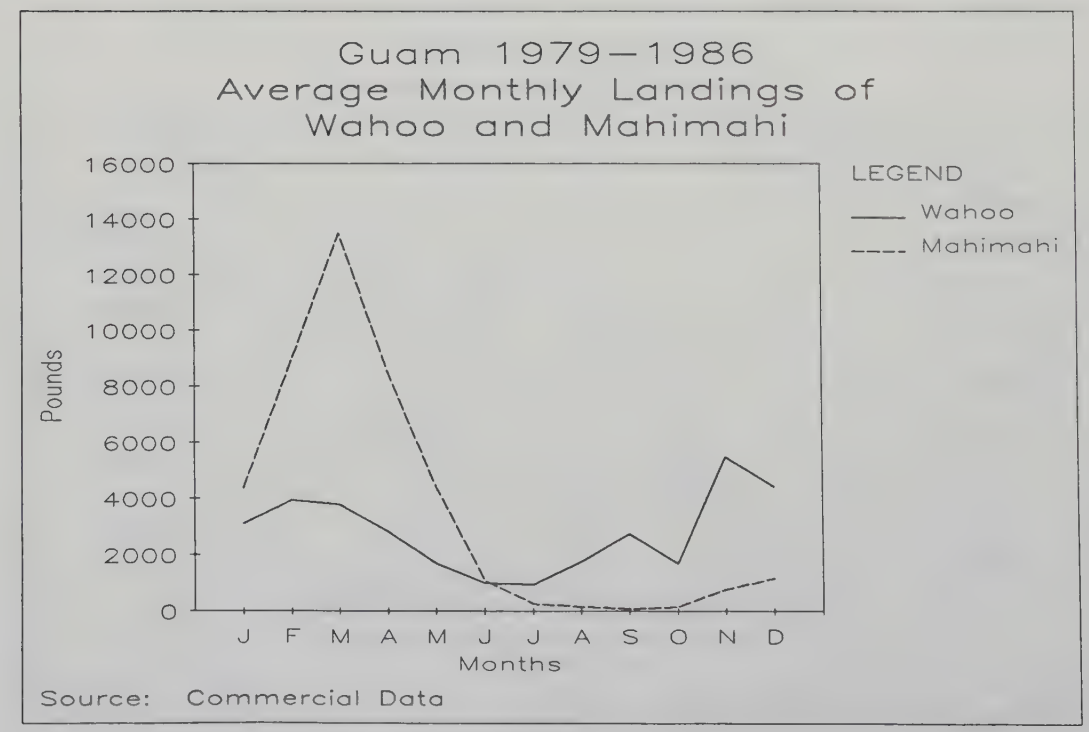


Figure IV.3.3

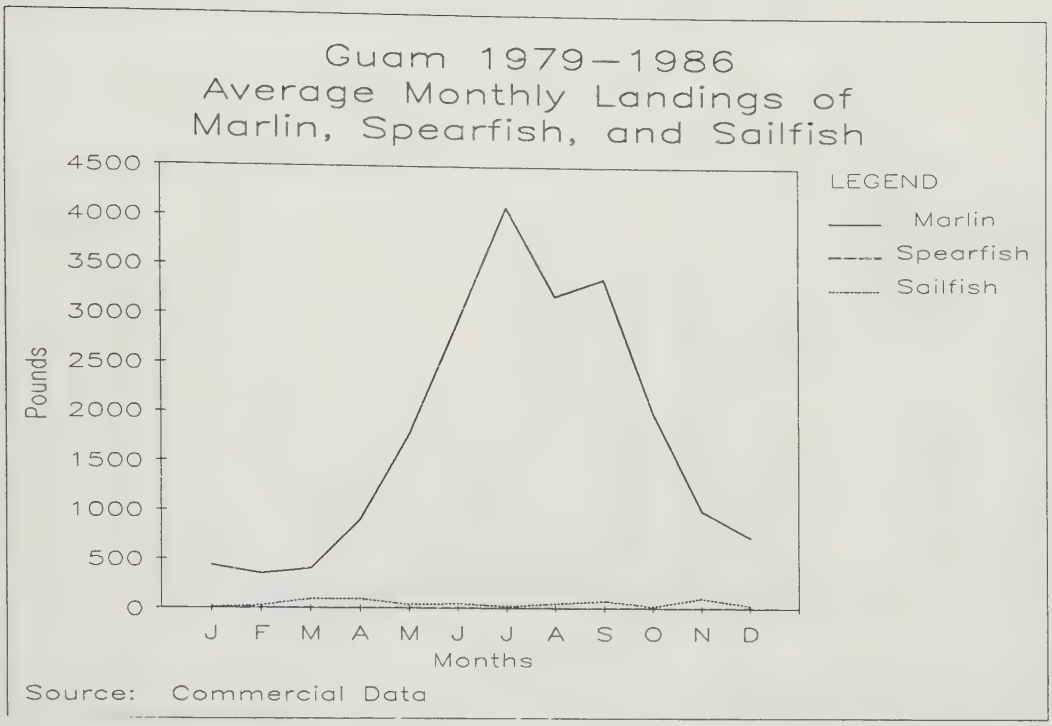


Figure IV.3.4

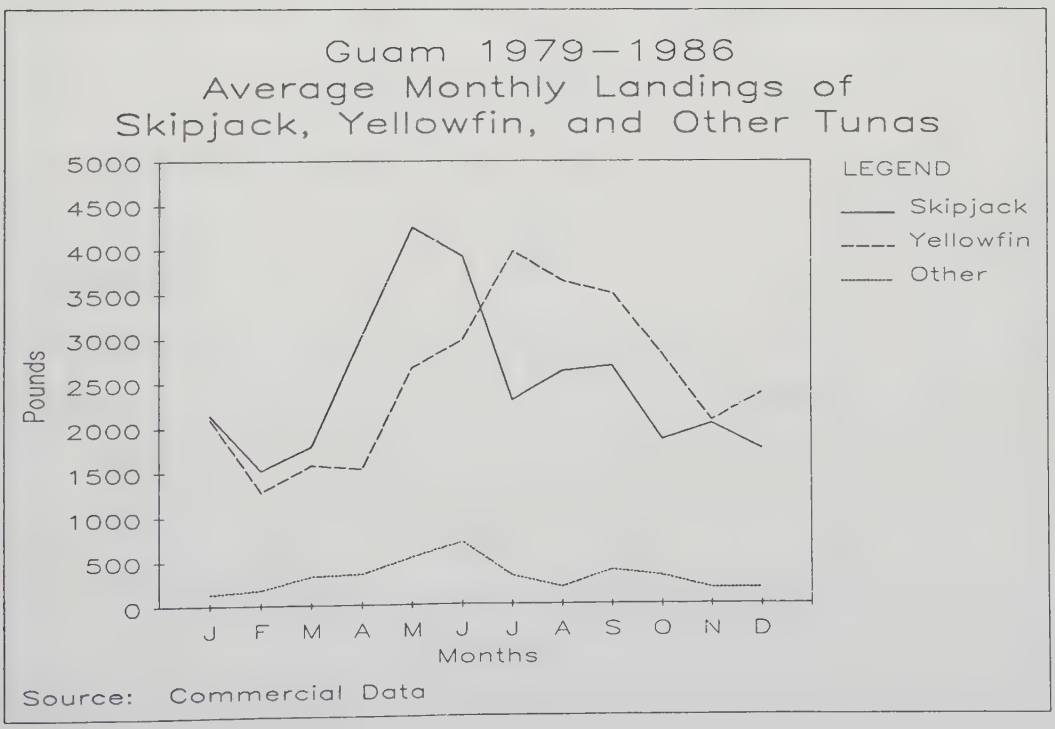


Figure IV.3.5

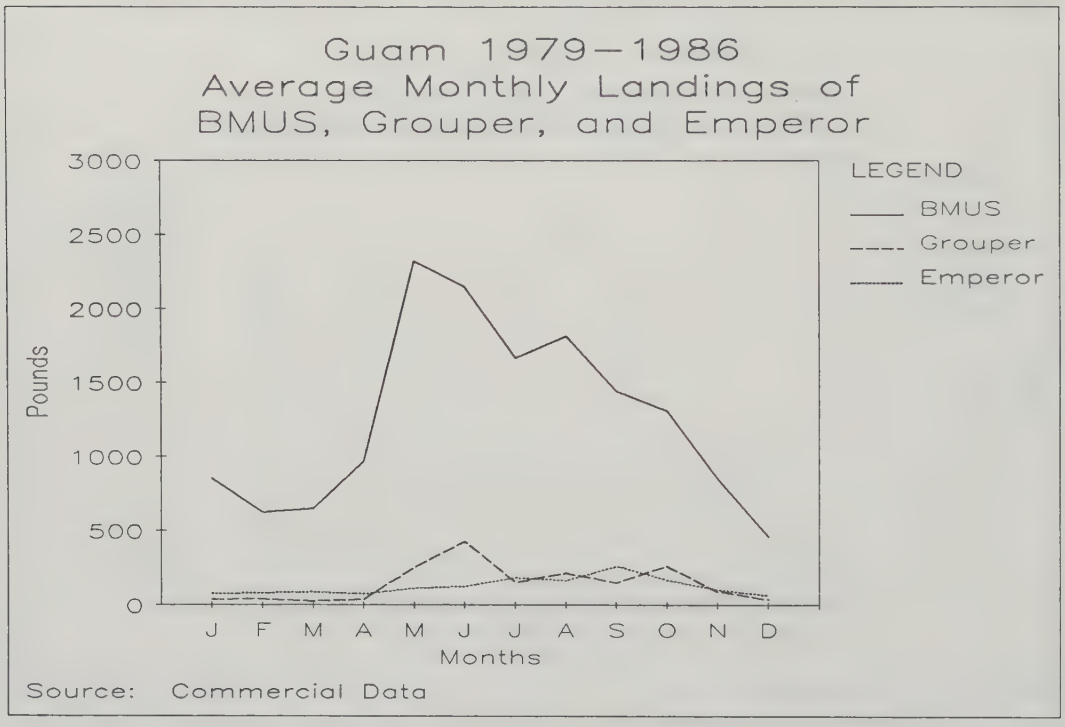

Guam 1979—1986
Average Monthly Landings of
BMUS, Grouper, and Emperor
3000
2500
2000
1500
1000
500
0
Pounds
J F M A M J J A S O N D
Months
LEGEND
BMUS
Grouper
Emperor
Source: Commercial Data

Figure IV.4.1

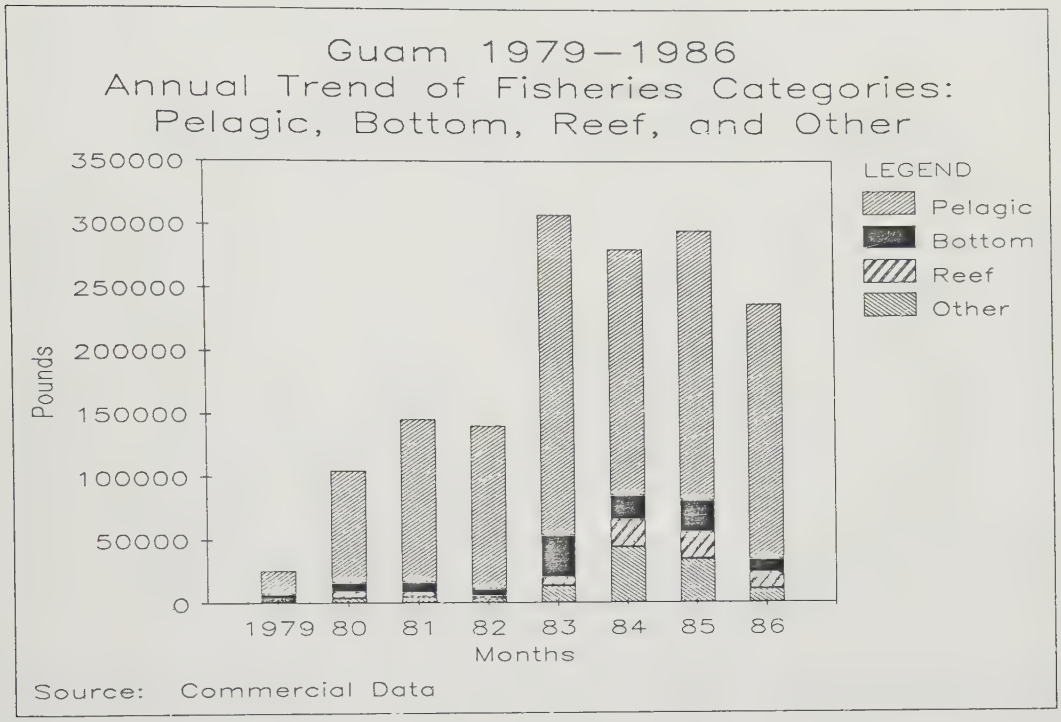
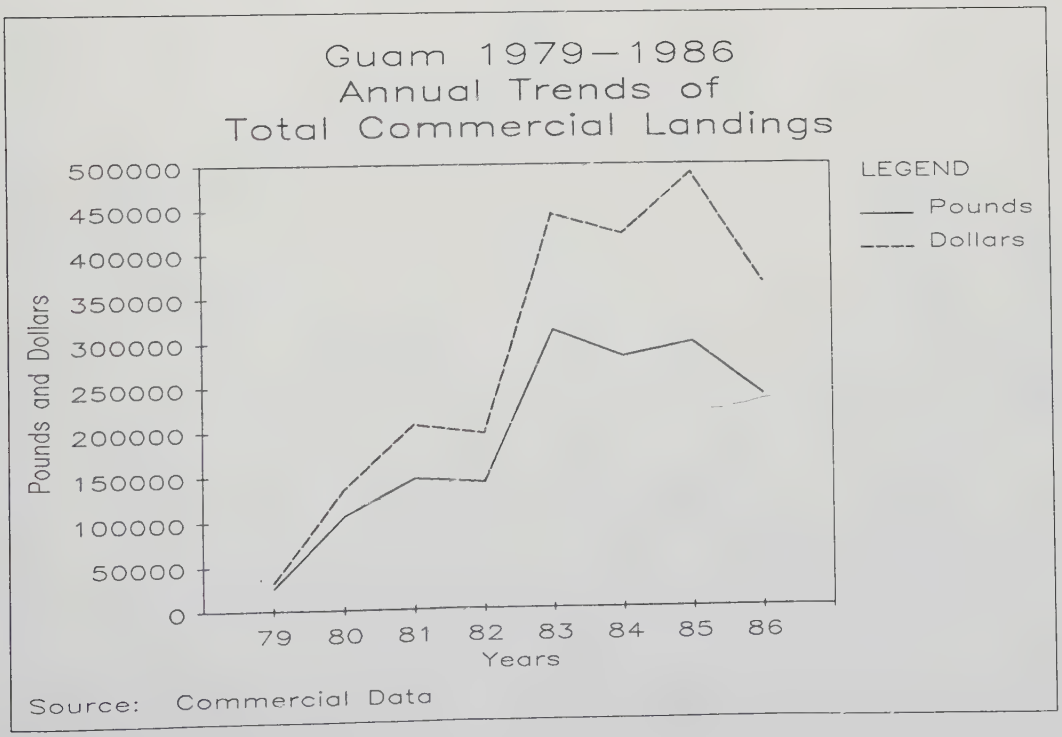


Figure IV.4.2



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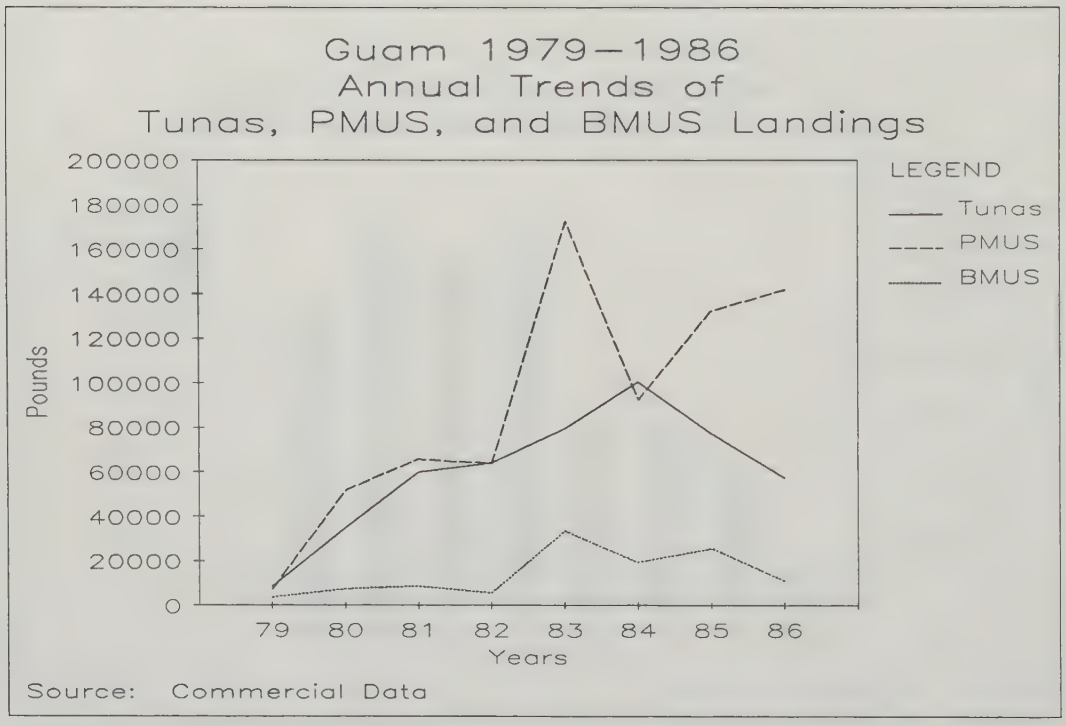

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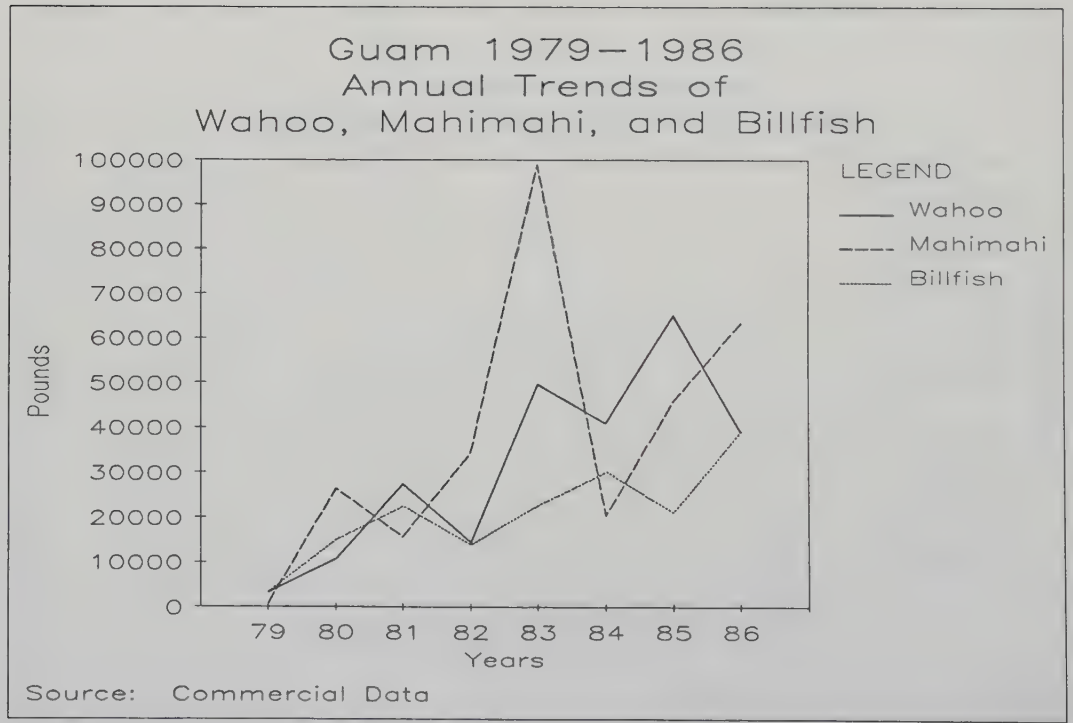


Figure IV.4.5

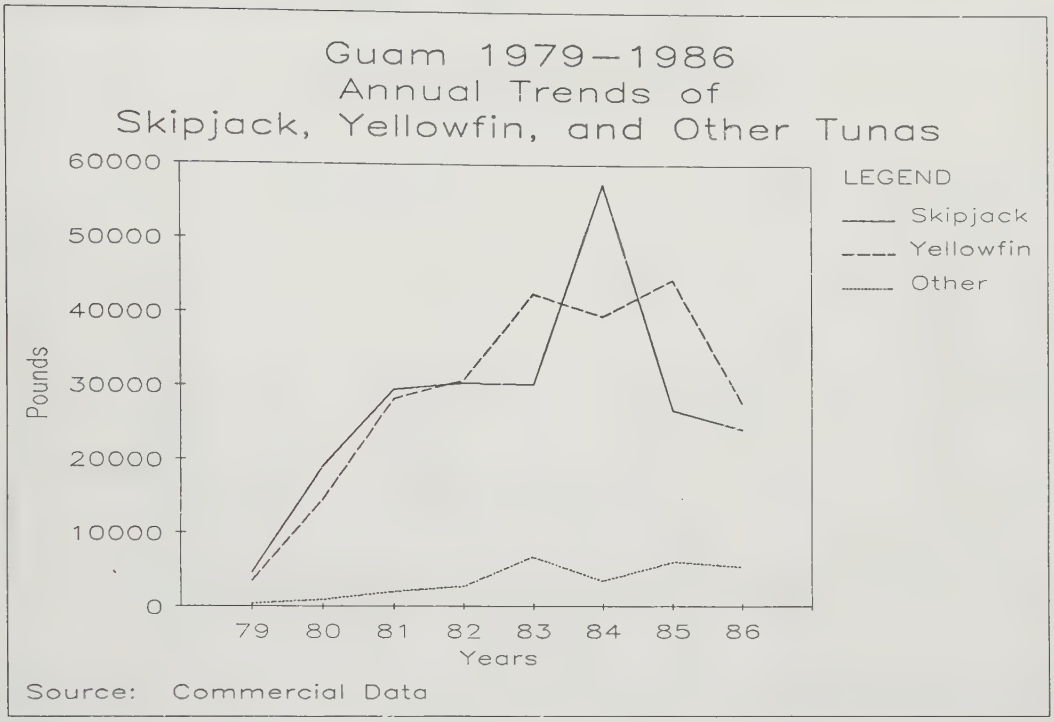

Guam 1979—1986
Annual Trends of
Skipjack, Yellowfin, and Other Tunas
60000
50000
40000
30000
20000
10000
0
Pounds
79
80
81
82
83
84
85
86
Years
LEGEND
Skipjack
Yellowfin
Other
Source: Commercial Data

Figure IV.5.1

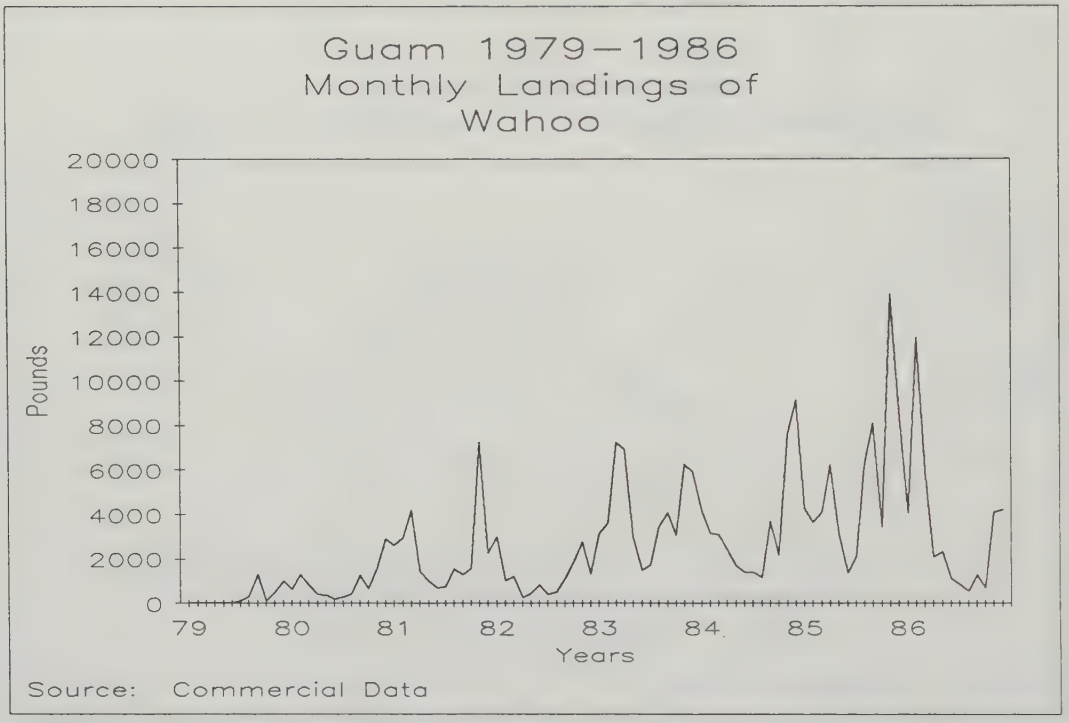


Figure IV.5.2

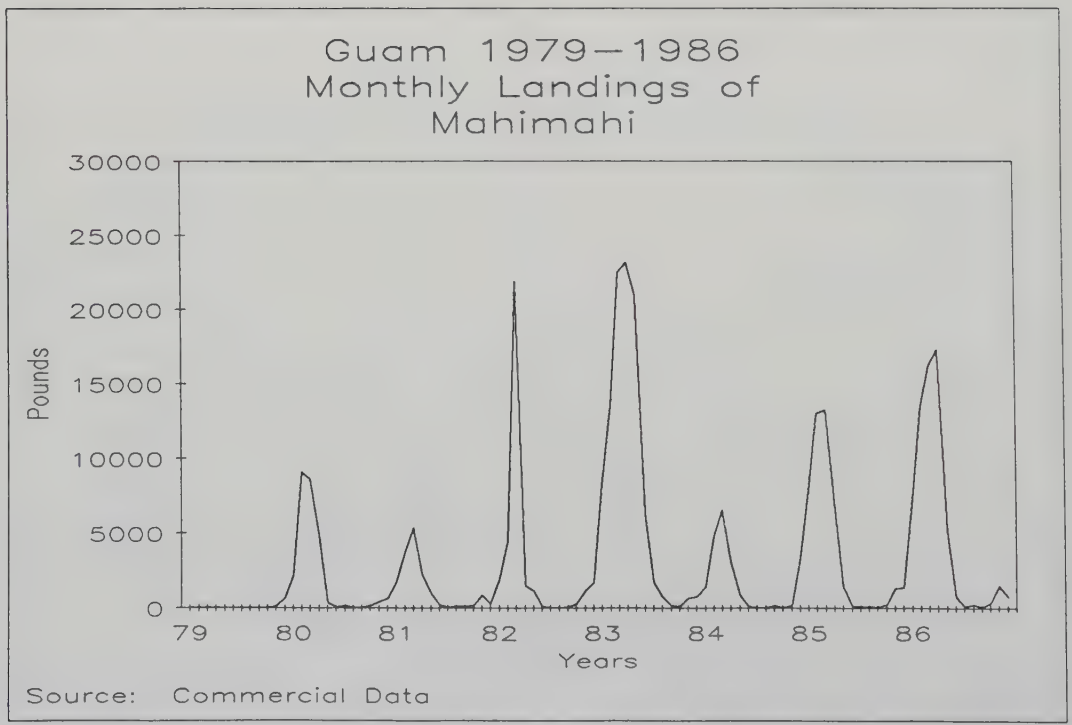
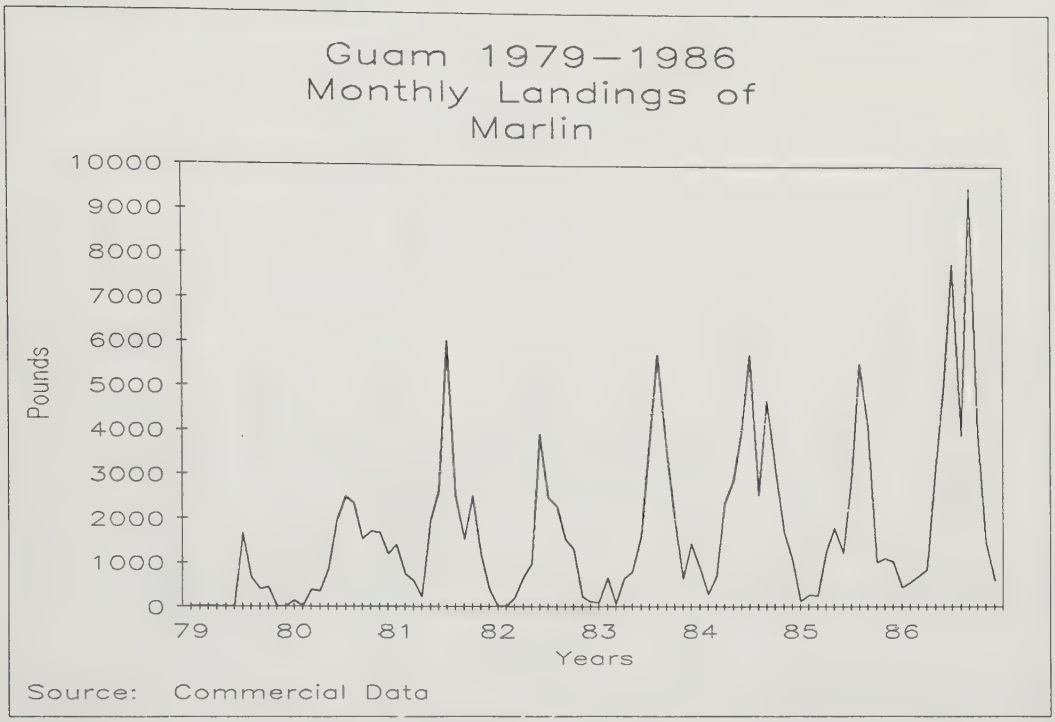


Figure IV.5.3



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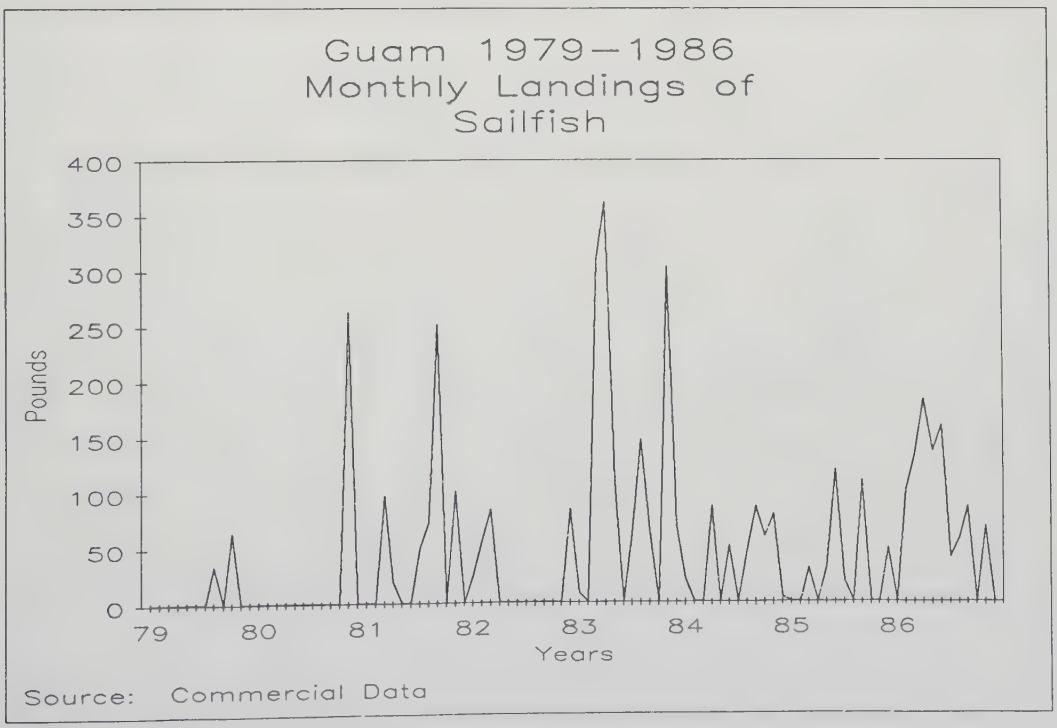


Figure IV.5.5

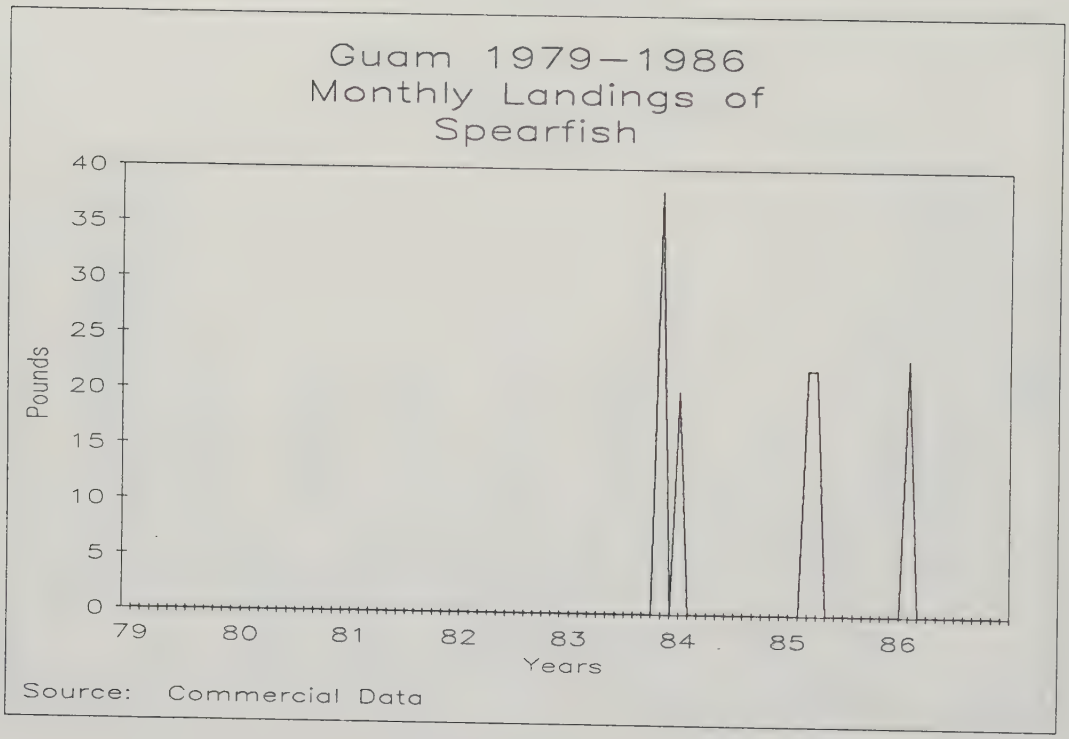

Guam 1979—1986
Monthly Landings of
Spearfish
Pounds
40
35
30
25
20
15
10
5
0
79
80
81
82
83
84
85
86
Years
Source: Commercial Data

Figure IV.5.6

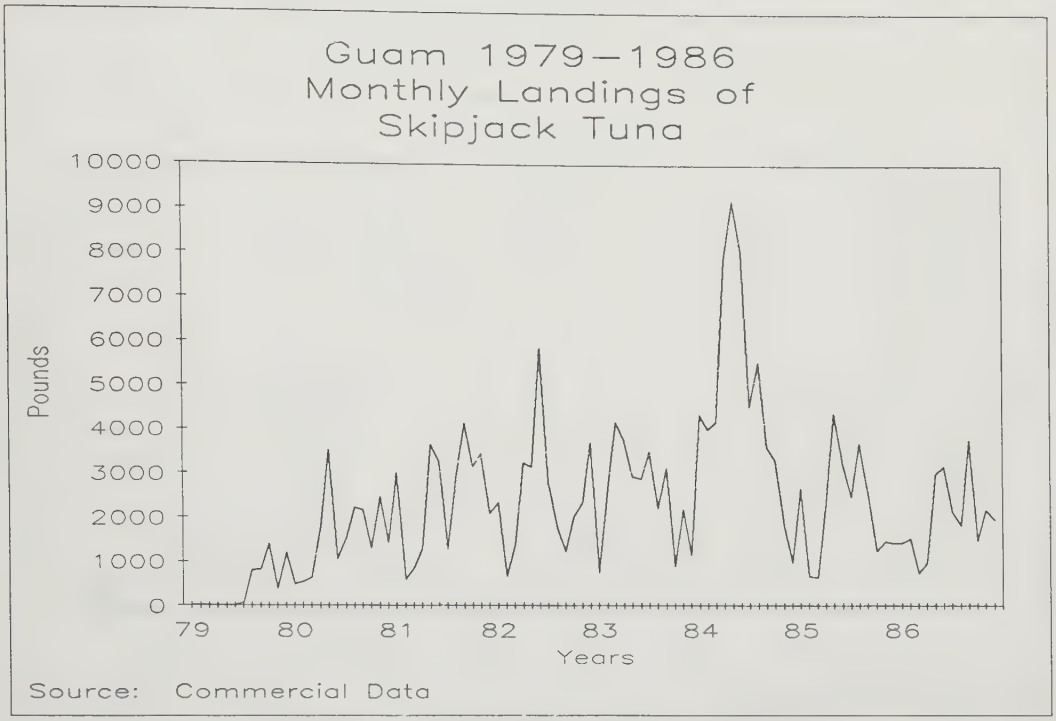


Figure IV.5.7

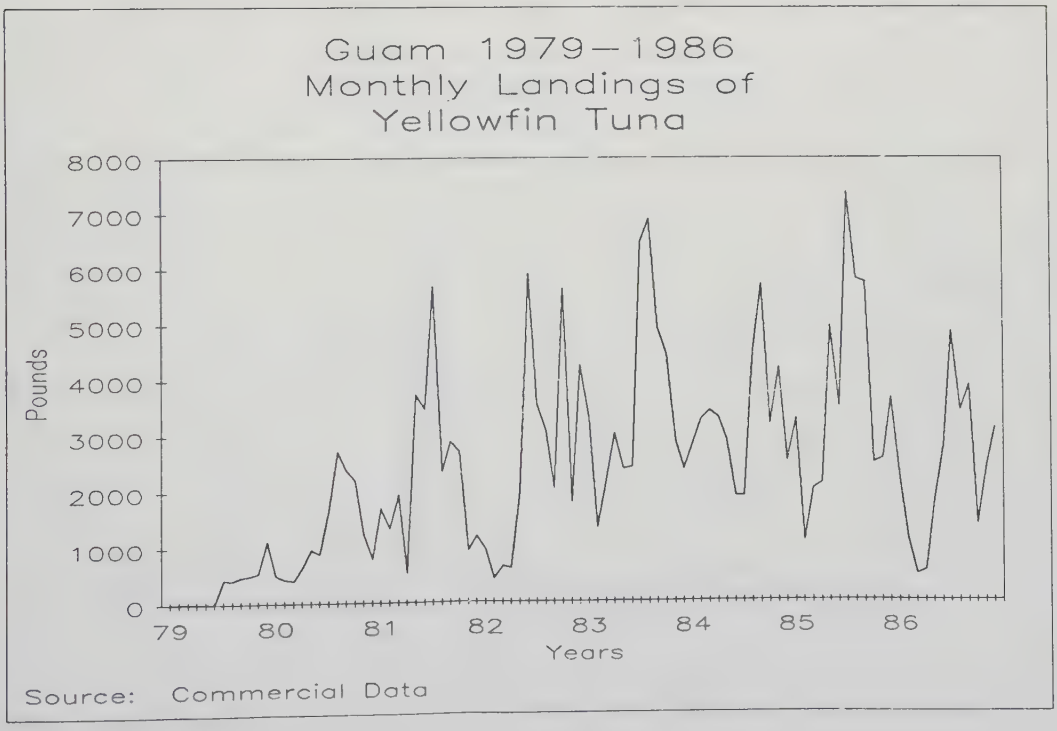


Figure IV.5.8

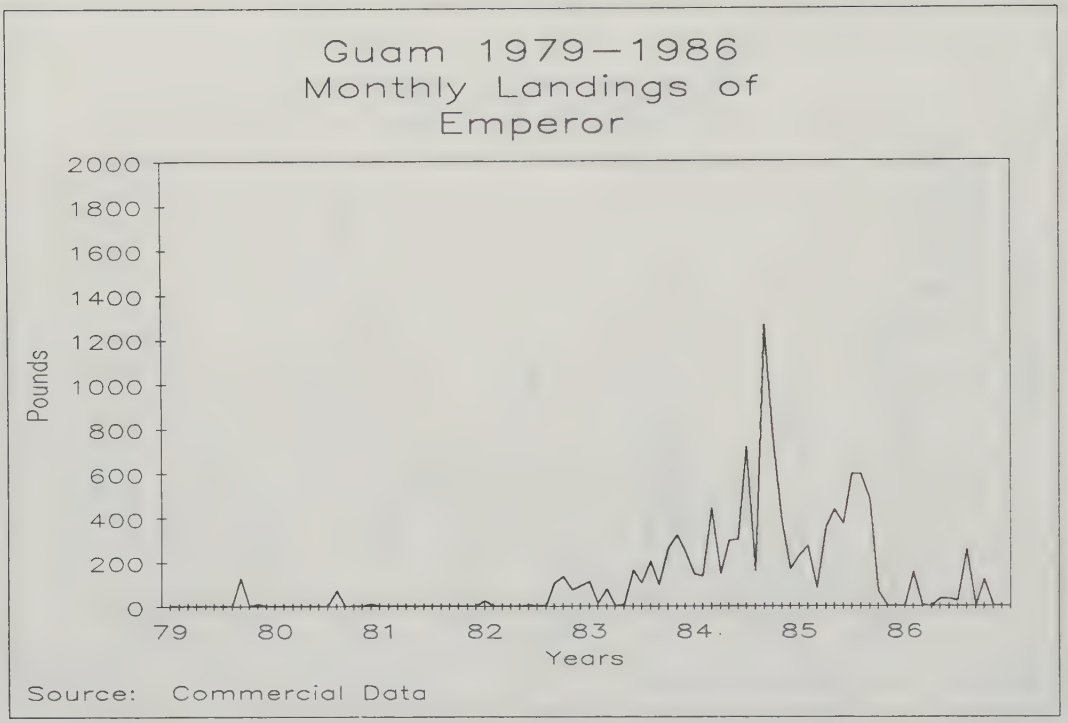
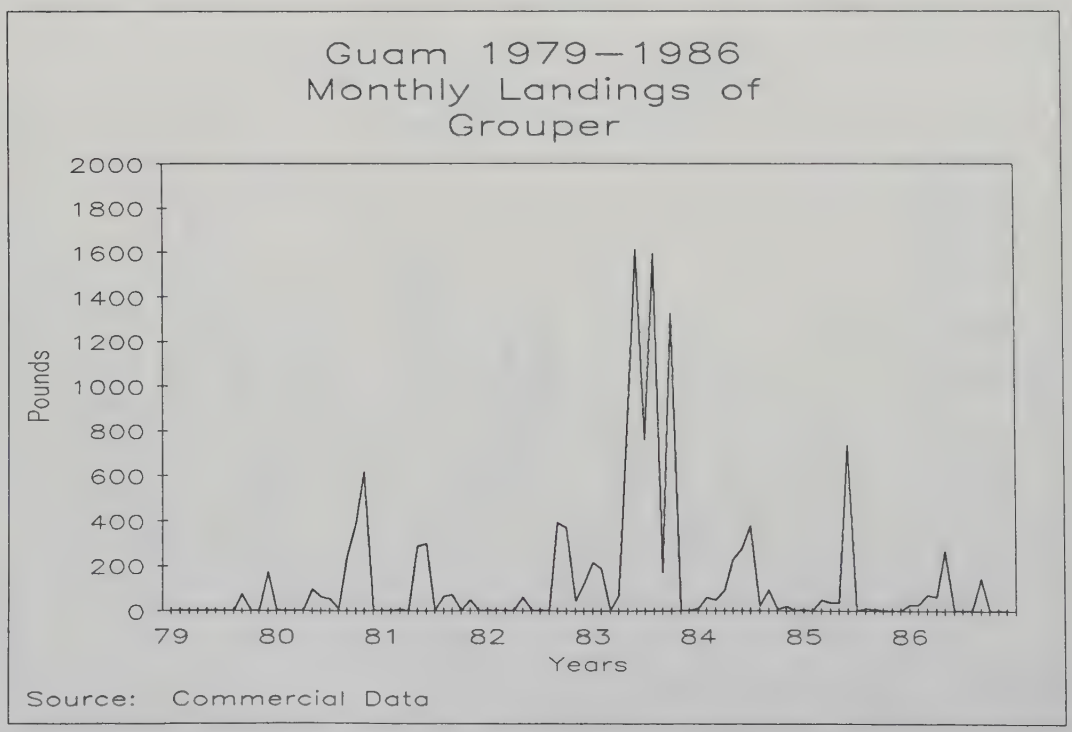


Figure IV.5.9



Pages IV.58 and IV.59 omitted

Pages IV.58 and IV.59 omitted

Table IV.3.1

GUAM DAWR ANNUAL 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	612604.3	10	48823.1	7	9900.0	6	131995.3	7	26567.7	7	13.2	9
BOTTOM FISH	92915.7	13	16242.5	11	3418.8	8	43507.6	11	9277.0	8	5.5	10
ATULAI JIG	38256.8	45	4661.9	31	634.3	29	13078.0	38	1717.4	34	7.6	25
SPEAR MIX	65.4	91	23.3	91	11.7	91	116.7	91	58.4	91	2.8	0*
SPEAR SNORKEL	14344.6	40	911.5	26	252.6	25	2806.8	26	800.3	23	16.5	51
SPEAR SCUBA	12513.1	26	972.2	20	521.6	20	2014.7	22	1193.8	21	11.6	16
LONG LINE	1044.1	89	67.9	89	9.7	89	203.8	89	29.1	89	15.4	0*
OTHER	4550.1	63	306.6	40	139.8	31	783.0	38	390.4	32	27.1	93
TOTAL:	776294.1	10	72009.1	7	11572.8	5	194506.0	7	31166.2	6	11.1	7

Table IV.3.2

GUAM DAWR ANNUAL 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	348824.3	11	38201.0	8	7992.4	6	108477.9	8	20561.4	8	9.2	12
BOTTOM FISH	29892.5	34	4944.6	18	1228.6	15	12344.4	20	3024.7	16	5.1	22
ATULAI JIG	17631.6	70	969.6	56	134.1	52	2631.8	62	370.2	57	12.3	99*
SPEAR MIX	1613.6	72	90.1	67	32.8	65	360.5	67	131.4	65	22.5	0*
SPEAR SNORKEL	7993.3	38	673.6	34	164.6	33	1468.3	32	339.9	29	12.4	27
SPEAR SCUBA	1486.9	42	131.4	35	79.0	35	387.5	44	243.3	41	12.8	18
OTHER	1059.5	82	156.6	49	99.9	42	414.1	53	261.4	45	22.8	45
TOTAL:	408501.7	12	45167.0	8	8312.0	6	126084.6	8	21212.3	7	9.2	11

* Not enough data to properly compute Coefficient of Variation (CV).

Table IV.4.1

GUAM DAWR JANUARY 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	37042.6	43	3222.4	25	575.1	20	10044.9	23	2059.9	28	2.4	30
BOTTOM FISH	745.8	64	350.9	61	106.5	54	1250.7	66	387.7	58	.4	61*
SPEAR SNORKEL	496.6	88	114.7	88	19.1	88	344.2	88	57.4	88	1.4	212*
TOTAL:	38285.0	41	3688.0	24	602.5	19	11639.8	24	2157.2	28	2.3	28

Table IV.4.2

GUAM DAWR FEBRUARY 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	50167.6	33	4644.6	23	671.9	20	12095.2	23	1824.4	23	2.1	20
BOTTOM FISH	9512.2	34	1607.9	14	358.7	26	4999.3	16	1045.5	17	1.6	32
SPEAR SNORKEL	176.1	89	43.2	89	21.6	89	86.4	89	43.2	89	1.0	128*
TOTAL:	59855.9	29	6295.6	20	852.8	18	17180.8	17	2352.8	17	1.9	19

Table IV.4.3

GUAM DAWR MARCH 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	26178.8	25	3425.8	18	784.2	17	12189.5	22	3026.8	22	3.0	28
BOTTOM FISH	2546.5	72	686.4	21	216.0	21	1904.3	13	658.3	34	1.0	41
TOTAL:	28725.3	27	4112.1	18	920.5	9	14093.8	19	3456.2	13	2.4	27

* Not enough data to properly compute Coefficient of Variation (CV).

Table IV.4.4

GUAM DAWR APRIL 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	53917.1	28	4108.6	22	766.9	21	10581.9	17	1967.1	16	2.4	5
BOTTOM FISH	13716.9	42	2114.8	53	322.9	26	5281.8	51	816.2	26	1.9	0
SPEAR SNORKEL	5787.9	76	93.0	63	36.8	66	324.1	63	123.4	64	20.4	112*
SPEAR SCUBA	605.0	79	81.2	77	29.2	73	81.2	77	29.2	73	7.0	0*
OTHER	470.3	90	22.8	90	22.8	90	45.5	90	45.5	90	20.7	0*
TOTAL:	74497.2	29	6420.4	31	804.3	17	16314.5	27	2063.3	14	2.3	0

Table IV.4.5

GUAM DAWR MAY 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	62068.5	22	4502.5	13	848.8	13	9866.7	13	1880.8	14	2.2	0
BOTTOM FISH	5970.5	44	1453.9	37	229.3	33	3259.4	34	568.1	37	.8	15
ATULAI JIG	3343.9	58	427.4	62	80.7	52	952.8	72	163.5	63	8.5	14*
SPEAR SNORKEL	71.4	88	7.2	88	7.2	88	50.4	88	50.4	88	1.4	38*
SPEAR SCUBA	2047.2	35	148.8	34	77.1	33	313.2	37	186.0	47	9.6	45
OTHER	163.2	88	24.7	88	12.3	88	49.3	88	24.7	88	3.3	0*
TOTAL:	73664.7	18	6564.5	11	1092.7	8	14491.8	10	2433.1	7	1.8	0

Table IV.4.6

GUAM DAWR JUNE 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	45109.9	39	3513.1	17	729.8	15	8880.6	18	1860.7	18	2.2	0
BOTTOM FISH	9189.8	24	1805.9	13	412.4	17	4730.1	18	1084.2	23	.7	0
ATULAI JIG	1322.2	89	772.2	89	64.4	89	3088.8	89	257.4	89	.4	231
SPEAR MIX	53.9	89	19.2	89	9.6	89	96.1	89	48.1	89	2.8	0*
SPEAR SNORKEL	462.3	89	93.2	89	11.7	89	466.0	89	58.3	89	.6	38*
SPEAR SCUBA	4773.3	44	344.4	31	194.9	27	878.8	31	514.3	20	5.4	46
LONG LINE	1108.8	89	72.1	89	10.3	89	216.4	89	30.9	89	15.4	0*
OTHER	67.3	89	64.3	89	16.1	89	128.6	89	32.1	89	.3	212*
TOTAL:	62087.4	33	6684.5	21	1083.3	16	18485.4	25	2917.7	18	1.7	0

* Not enough data to properly compute Coefficient of Variation (CV).

Table IV.4.7

GUAM DAWR JULY 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	51398.2	29	3975.7	15	937.0	13	10856.1	13	2584.7	13	11.7	24
BOTTOM FISH	13472.1	28	1917.3	30	408.4	24	5157.6	31	1081.8	26	8.0	27
ATULAI JIG	21113.4	64	1681.1	50	240.8	47	4904.2	58	701.8	57	10.1	34
SPEAR SNORKEL	2391.3	88	127.5	81	39.4	76	266.5	66	96.7	63	12.5	0*
SPEAR SCUBA	1669.0	39	144.3	27	60.5	25	293.0	31	122.4	27	12.9	34
OTHER	334.3	75	32.4	73	21.4	68	115.8	80	72.0	75	21.2	0*
TOTAL:	90378.3	27	7878.3	21	1296.0	17	21593.3	21	3552.1	16	10.7	16

Table IV.4.8

GUAM DAWR AUGUST 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	64843.9	12	4557.0	16	1179.8	11	13094.4	18	2192.1	18	9.6	26
BOTTOM FISH	8428.1	35	1544.5	39	340.6	31	4091.2	43	868.8	36	3.2	30
ATULAI JIG	3067.5	74	845.1	57	126.6	55	1457.4	55	249.1	58	1.2	38*
SPEAR SCUBA	509.3	64	55.8	52	32.4	56	83.7	52	48.6	56	3.0	72*
OTHER	8.0	85	4.2	85	8.4	85	12.6	85	25.3	85	.6	212*
TOTAL:	76856.8	12	7006.6	23	1392.5	13	18739.4	22	2717.7	20	7.4	25

Table IV.4.9

GUAM DAWR SEPTEMBER 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	62300.8	41	3716.8	25	864.3	15	10317.1	22	2489.5	11	4.8	31
BOTTOM FISH	12334.5	48	1354.6	25	324.7	21	3080.0	21	791.3	16	1.7	25
SPEAR SNORKEL	1163.2	59	111.1	61	30.7	48	462.8	69	142.9	58	4.5	47*
SPEAR SCUBA	738.3	56	83.3	52	45.2	53	93.5	48	65.6	54	1.6	51*
OTHER	77.2	89	5.0	89	5.0	89	30.0	89	30.0	89	3.1	250*
TOTAL:	76613.9	40	5270.9	23	862.0	19	13983.4	18	2408.9	14	3.5	26

* Not enough data to properly compute Coefficient of Variation (CV).

Table IV.4.10

GUAM DAWR OCTOBER 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	24424.0	62	2549.0	26	602.7	18	6417.9	23	1571.2	15	9.8	66
BOTTOM FISH	3493.2	34	1044.5	36	218.2	31	3087.5	32	647.2	27	3.7	9
ATULAI JIG	667.2	88	150.0	88	17.6	88	450.0	88	52.9	88	4.4	0*
SPEAR SNORKEL	3001.5	95	198.4	95	36.1	95	396.7	95	72.1	95	15.1	0*
SPEAR SCUBA	77.4	88	14.6	35	19.1	6	71.8	12	102.7	18	8.8	141*
OTHER	5565.7	95	36.1	95	18.0	95	72.1	95	36.1	95	154.3	0*
TOTAL:	37229.1	66	3992.6	32	630.9	21	10496.0	29	1769.9	20	8.7	59

Table IV.4.11

GUAM DAWR NOVEMBER 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	82071.5	55	6484.2	42	1285.9	42	16856.8	47	3358.7	46	8.5	18
BOTTOM FISH	8392.0	71	1425.1	58	293.8	44	4272.7	63	853.7	50	4.0	31
ATULAI JIG	5867.6	91	230.8	91	30.8	91	576.9	91	76.9	91	25.4	0*
SPEAR SNORKEL	441.2	78	178.4	73	54.7	62	633.2	71	196.0	58	2.2	26*
SPEAR SCUBA	27.1	91	7.7	91	15.4	91	7.7	91	15.4	91	3.5	0*
OTHER	203.5	91	130.8	91	30.8	91	326.9	91	76.9	91	1.6	0*
TOTAL:	97002.9	59	8456.9	47	1227.9	37	22674.2	52	3170.3	42	7.8	10

Table IV.4.12

GUAM DAWR DECEMBER 1985
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	46043.8	36	3304.5	14	573.5	13	8248.9	15	1419.4	14	14.6	34
BOTTOM FISH	1156.8	6	365.5	29	97.2	19	1012.2	26	265.5	14	3.2	61*
ATULAI JIG	0	0	82.0	95	16.4	95	328.1	95	65.6	95	0	0*
SPEAR SNORKEL	1374.4	95	65.6	95	16.4	95	65.6	95	16.4	95	20.9	0*
SPEAR SCUBA	1598.8	95	42.0	95	28.0	95	126.0	95	84.0	95	38.1	0*
TOTAL:	50173.8	33	3859.7	15	586.4	7	9780.8	16	1515.8	8	13.4	18

* Not enough data to properly compute Coefficient of Variation (CV).

Table IV.5.1

GUAM DAWR ANNUAL 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SHARKS	2086.7	0.27	0	0	1698.4	1.83	388.3	0.55
STING RAY	31.1	0	0	0	31.1	0.03	0	0
FLYING FISH	3.0	0	0	0	0	0	3.0	0
NEEDLEFISH	65.1	0.01	42.0	0.01	0	0	23.1	0.03
SQUIRRELFISH	3746.4	0.48	0	0	2274.7	2.45	1471.7	2.08
SCORPIONFISH	71.4	0.01	0	0	0	0	71.4	0.10
GROUPER	9731.6	1.25	0	0	7735.8	8.33	1995.8	2.82
BIGEYES	148.9	0.02	0	0	67.7	0.07	81.2	0.11
CARDINALFISH	9.0	0	0	0	9.0	0.01	0	0
FALSE WHITING	11.2	0	0	0	11.2	0.01	0	0
JACKS	8507.4	1.10	2635.9	0.43	5028.1	5.41	843.5	1.19
RAINBOW RUNNER	1792.4	0.23	1792.4	0.29	0	0	0	0
BIGEYE SCAD (AKULE)	35992.5	4.64	0	0	480.3	0.52	35512.2	50.18
DOLPHINFISH (MAHIMAHI)	92407.4	11.90	92407.4	15.08	0	0	0	0
POMFRET	12.6	0	12.6	0	0	0	0	0
SNAPPERS	3672.7	0.47	78.5	0.01	2976.0	3.20	618.2	0.87
LEHI (SILVERMOUTH)	1160.6	0.15	0	0	1160.6	1.25	0	0
UKU (JOBFISH)	3632.7	0.47	347.1	0.06	3148.9	3.39	136.7	0.19
EHU (PINK SNAPPER)	1506.1	0.19	0	0	1506.1	1.62	0	0
ONAGA (RED SNAPPER)	2903.7	0.37	0	0	2903.7	3.13	0	0
BLUE LINED SNAPPER	1152.8	0.15	0	0	1021.5	1.10	131.4	0.19
YELLOWTAIL KALIKALI	3229.9	0.42	0	0	3210.6	3.46	19.2	0.03
OPAKAPAKA (PINK SNAP)	1219.0	0.16	0	0	1219.0	1.31	0	0
YELLOWEYE OPAKAPAKA	1676.7	0.22	0	0	1676.7	1.80	0	0
KALIKALI (PINK SNAPPER)	183.3	0.02	0	0	183.3	0.20	0	0
GINDAI (FLOWER SNAPPER)	2540.7	0.33	0	0	2521.3	2.71	19.3	0.03
FUSILIER	73.6	0.01	0	0	44.6	0.05	29.1	0.04
BREAM	3.1	0	0	0	3.1	0	0	0
SWEETLIPS	138.6	0.02	0	0	13.0	0.01	125.6	0.18
EMPERORS	28483.9	3.67	0	0	28305.1	30.46	178.8	0.25
GOATFISH	1597.3	0.21	0	0	1475.5	1.59	121.8	0.17
SWEEPERS	23.1	0	0	0	0	0	23.1	0.03
RUDDERFISH	890.6	0.11	0	0	0	0	890.6	1.26
BATFISH	54.7	0.01	0	0	0	0	54.7	0.08
BUTTERFLYFISH	2.3	0	0	0	0	0	2.3	0
ANGELFISH	7.1	0	0	0	0	0	7.1	0.01
HAWKFISH	10.9	0	0	0	10.9	0.01	0	0
MULLET	601.4	0.08	0	0	0	0	601.4	0.85
BARRACUDA	10094.6	1.30	8987.2	1.47	131.3	0.14	976.1	1.38

Table IV.5.1 (Cont)

GUAM DAWR ANNUAL 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	% THIS TROLLING	GEAR	% THIS BOTTOM	GEAR	% THIS OTHER	GEAR
WRASSE	1304.6	0.17	0	0	436.8	0.47	867.8	1.23
PARROTFISH	8018.0	1.03	0	0	46.5	0.05	7971.4	11.26
SURGEONFISH AND TANGS	3270.1	0.42	0	0	47.4	0.05	3222.6	4.55
MOORISH IDOLS	2.8	0	0	0	0	0	2.8	0
RABBITFISH	148.6	0.02	0	0	0	0	148.6	0.21
TUNAS	96.5	0.01	96.5	0.02	0	0	0	0
WAHOO	159299.7	20.52	159299.7	26.00	0	0	0	0
KAWAKAWA	1971.6	0.25	1971.6	0.32	0	0	0	0
DOGTOOTH TUNA	8487.9	1.09	7024.8	1.15	1175.9	1.27	287.2	0.41
SKIPJACK TUNA	137096.9	17.66	137096.9	22.38	0	0	0	0
YELLOWFIN TUNA	122706.5	15.81	122331.9	19.97	0	0	374.6	0.53
SAILFISH	914.7	0.12	914.7	0.15	0	0	0	0
BLUE MARLIN	77565.2	9.99	77565.2	12.66	0	0	0	0
TRIGGERFISH	1141.9	0.15	0	0	1136.6	1.22	5.3	0.01
TRIPLETOOTH PUFFERS	180.2	0.02	0	0	180.2	0.19	0	0
SMOOTH PUFFERS	31.1	0	0	0	31.1	0.03	0	0
ASSORTED BOTTOM FISH	13167.9	1.70	0	0	13167.9	14.17	0	0
SHALLOW BOTTOM FISH	6158.6	0.79	0	0	6158.6	6.63	0	0
DEEP BOTTOM FISH	1687.2	0.22	0	0	1687.2	1.82	0	0
ASSORTED REEF FISH	8637.5	1.11	0	0	0	0	8637.5	12.20
MOLLUSKS	3669.5	0.47	0	0	0	0	3669.5	5.18
SQUID	3.7	0	0	0	0	0	3.7	0.01
OCTOPUS	23.1	0	0	0	0	0	23.1	0.03
CRUSTACEANS	5.5	0	0	0	0	0	5.5	0.01
SPINY LOBSTERS	1125.0	0.14	0	0	0	0	1125.0	1.59
SLIPPER LOBSTERS	21.3	0	0	0	0	0	21.3	0.03
CRABS	82.7	0.01	0	0	0	0	82.7	0.12
TOTAL ALL SPECIES:	776294.1	100.00	612604.3	78.91	92915.7	11.97	70774.1	9.12

Table IV.5.2

GUAM DAWR JANUARY 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SQUIRRELFISH	21.2	0.06	0	0	0	0	21.2	4.26
GROUPER	114.5	0.30	0	0	90.8	12.17	23.7	4.77
JACKS	96.7	0.25	16.5	0.04	39.9	5.35	40.2	8.10
DOLPHINFISH (MAHIMAHI)	16479.3	43.04	16479.3	44.49	0	0	0	0
BLUE LINED SNAPPER	40.3	0.11	0	0	40.3	5.41	0	0
YELLOWEYE OPAKAPAKA	33.6	0.09	0	0	33.6	4.51	0	0
EMPERORS	171.4	0.45	0	0	171.4	22.99	0	0
GOATFISH	8.4	0.02	0	0	8.4	1.13	0	0
RUDDERFISH	63.5	0.17	0	0	0	0	63.5	12.79
BARRACUDA	198.1	0.52	198.1	0.53	0	0	0	0
WRASSE	43.0	0.11	0	0	21.0	2.82	22.0	4.43
PARROTFISH	326.0	0.85	0	0	0	0	326.0	65.64
WAHOO	4579.4	11.96	4579.4	12.36	0	0	0	0
DOGTOOTH TUNA	137.6	0.36	137.6	0.37	0	0	0	0
SKIPJACK TUNA	6093.0	15.91	6093.0	16.45	0	0	0	0
YELLOWFIN TUNA	9538.6	24.91	9538.6	25.75	0	0	0	0
TRIGGERFISH	54.6	0.14	0	0	54.6	7.32	0	0
ASSORTED BOTTOM FISH	285.7	0.75	0	0	285.7	38.31	0	0
TOTAL ALL SPECIES:	38285.0	100.00	37042.6	96.75	745.8	1.95	496.6	1.30

Table IV.5.3

GUAM DAWR FEBRUARY 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
STING RAY	36.3	0.06	0	0	36.3	0.38	0	0
SQUIRRELFISH	4.0	0.01	0	0	4.0	0.04	0	0
GROUPER	764.5	1.28	0	0	764.5	8.04	0	0
JACKS	498.4	0.83	136.6	0.27	361.8	3.80	0	0
RAINBOW RUNNER	84.2	0.14	84.2	0.17	0	0	0	0
DOLPHINFISH (MAHIMAHI)	28816.6	48.14	28816.6	57.44	0	0	0	0
SNAPPERS	257.6	0.43	0	0	257.6	2.71	0	0
LEHI (SILVERMOUTH)	10.5	0.02	0	0	10.5	0.11	0	0
UKU (JOBFISH)	630.7	1.05	316.8	0.63	313.9	3.30	0	0
BLUE LINED SNAPPER	29.4	0.05	0	0	29.4	0.31	0	0
OPAKAPAKA (PINK SNAP)	71.8	0.12	0	0	71.8	0.76	0	0
YELLOWEYE OPAKAPAKA	460.8	0.77	0	0	460.8	4.84	0	0
GINDAI (FLOWER SNAPPER)	16.3	0.03	0	0	16.3	0.17	0	0
SWEETLIPS	27.2	0.05	0	0	27.2	0.29	0	0
EMPERORS	3712.6	6.20	0	0	3712.6	39.03	0	0
GOATFISH	108.9	0.18	0	0	108.9	1.14	0	0
BARRACUDA	295.7	0.49	197.8	0.39	98.0	1.03	0	0
WRASSE	11.6	0.02	0	0	11.6	0.12	0	0
PARROTFISH	32.7	0.05	0	0	32.7	0.34	0	0
WAHOO	12613.7	21.07	12613.7	25.14	0	0	0	0
KAWAKAWA	201.4	0.34	201.4	0.40	0	0	0	0
DOGTOOTH TUNA	1632.7	2.73	1632.7	3.25	0	0	0	0
SKIPJACK TUNA	3094.9	5.17	3094.9	6.17	0	0	0	0
YELLOWFIN TUNA	3072.8	5.13	3072.8	6.13	0	0	0	0
TRIGGERFISH	77.3	0.13	0	0	77.3	0.81	0	0
ASSORTED BOTTOM FISH	3117.0	5.21	0	0	3117.0	32.77	0	0
ASSORTED REEF FISH	109.5	0.18	0	0	0	0	109.5	62.16
SPINY LOBSTERS	66.6	0.11	0	0	0	0	66.6	37.84
TOTAL ALL SPECIES:	59855.9	100.00	50167.6	83.81	9512.2	15.89	176.1	0.29

Table IV.5.4

GUAM DAWR MARCH 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR
SQUIRRELFISH	44.6	0.16	0	0	44.6	1.75
GROUPER	117.7	0.41	0	0	117.7	4.62
JACKS	463.7	1.61	0	0	463.7	18.21
DOLPHINFISH (MAHIMAHI)	17666.3	61.50	17666.3	67.48	0	0
SNAPPERS	85.2	0.30	0	0	85.2	3.34
EHU (PINK SNAPPER)	47.7	0.17	0	0	47.7	1.87
YELLOWTAIL KALIKALI	80.7	0.28	0	0	80.7	3.17
YELLOWEYE OPAKAPAKA	401.3	1.40	0	0	401.3	15.76
GINDAI (FLOWER SNAPPER)	81.6	0.28	0	0	81.6	3.20
EMPERORS	1074.6	3.74	0	0	1074.6	42.20
GOATFISH	60.2	0.21	0	0	60.2	2.36
BARRACUDA	369.2	1.29	369.2	1.41	0	0
WRASSE	44.6	0.16	0	0	44.6	1.75
WAHOO	2782.8	9.69	2782.8	10.63	0	0
KAWAKAWA	40.3	0.14	40.3	0.15	0	0
SKIPJACK TUNA	3330.5	11.59	3330.5	12.72	0	0
YELLOWFIN TUNA	745.3	2.59	745.3	2.85	0	0
BLUE MARLIN	1244.4	4.33	1244.4	4.75	0	0
TRIGGERFISH	44.6	0.16	0	0	44.6	1.75
TOTAL ALL SPECIES:	28725.3	100.00	26178.8	91.14	2546.5	8.86

Table IV.5.5

GUAM DAWR APRIL 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SHARKS	46.0	0.06	0	0	46.0	0.34	0	0
SQUIRRELFISH	208.3	0.28	0	0	107.2	0.78	101.1	1.47
GROUPER	825.4	1.11	0	0	704.4	5.14	121.0	1.76
BIGEYES	4.1	0.01	0	0	4.1	0.03	0	0
CARDINALFISH	4.1	0.01	0	0	4.1	0.03	0	0
FALSE WHITING	5.7	0.01	0	0	5.7	0.04	0	0
JACKS	1305.5	1.75	961.5	1.78	256.2	1.87	87.9	1.28
RAINBOW RUNNER	73.1	0.10	73.1	0.14	0	0	0	0
BIGEYE SCAD (AKULE)	85.9	0.12	0	0	85.9	0.63	0	0
DOLPHINFISH (MAHIMAHI)	22046.3	29.59	22046.3	40.89	0	0	0	0
SNAPPERS	104.6	0.14	0	0	98.9	0.72	5.6	0.08
UKU (JOBFISH)	376.1	0.50	0	0	376.1	2.74	0	0
EHU (PINK SNAPPER)	228.9	0.31	0	0	228.9	1.67	0	0
ONAGA (RED SNAPPER)	1506.5	2.02	0	0	1506.5	10.98	0	0
BLUE LINED SNAPPER	53.1	0.07	0	0	53.1	0.39	0	0
YELLOWTAIL KALIKALI	145.1	0.19	0	0	145.1	1.06	0	0
YELLOWEYE OPAKAPAKA	273.5	0.37	0	0	273.5	1.99	0	0
GINDAI (FLOWER SNAPPER)	559.9	0.75	0	0	559.9	4.08	0	0
EMPERORS	8447.4	11.34	0	0	8447.4	61.58	0	0
GOATFISH	78.3	0.11	0	0	55.1	0.40	23.2	0.34
RUDDERFISH	35.1	0.05	0	0	0	0	35.1	0.51
HAWKFISH	2.0	0	0	0	2.0	0.01	0	0
MULLET	570.4	0.77	0	0	0	0	570.4	8.31
BARRACUDA	840.6	1.13	840.6	1.56	0	0	0	0
WRASSE	44.9	0.06	0	0	31.5	0.23	13.5	0.20
PARROTFISH	680.4	0.91	0	0	0	0	680.4	9.91
SURGEONFISH AND TANGS	1083.5	1.45	0	0	0	0	1083.5	15.79
MOORISH IDOLS	7.4	0.01	0	0	0	0	7.4	0.11
WAHOO	13785.6	18.50	13785.6	25.57	0	0	0	0
KAWAKAWA	65.8	0.09	65.8	0.12	0	0	0	0
DOGTOOTH TUNA	1810.4	2.43	1704.5	3.16	105.9	0.77	0	0
SKIPJACK TUNA	9959.1	13.37	9959.1	18.47	0	0	0	0
YELLOWFIN TUNA	2920.1	3.92	2920.1	5.42	0	0	0	0
BLUE MARLIN	1560.6	2.09	1560.6	2.89	0	0	0	0
TRIGGERFISH	163.5	0.22	0	0	163.5	1.19	0	0
ASSORTED BOTTOM FISH	455.8	0.61	0	0	455.8	3.32	0	0
ASSORTED REEF FISH	3384.4	4.54	0	0	0	0	3384.4	49.31
SPINY LOBSTERS	749.8	1.01	0	0	0	0	749.8	10.92
TOTAL ALL SPECIES:	74497.2	100.00	53917.1	72.37	13716.9	18.41	6863.2	9.21

Table IV.5.6

GUAM DAWR MAY 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SHARKS	71.3	0.10	0	0	71.3	1.19	0	0
SQUIRRELFISH	533.2	0.72	0	0	60.3	1.01	473.0	8.41
GROUPER	802.0	1.09	0	0	536.1	8.98	265.9	4.73
BIGEYES	23.1	0.03	0	0	0	0	23.1	0.41
JACKS	683.7	0.93	402.2	0.65	132.0	2.21	149.5	2.66
RAINBOW RUNNER	497.6	0.68	497.6	0.80	0	0	0	0
BIGEYE SCAD (AKULE)	2944.8	4.00	0	0	197.2	3.30	2747.6	48.84
DOLPHINFISH (MAHIMAHI)	3529.5	4.79	3529.5	5.69	0	0	0	0
SNAPPERS	191.7	0.26	0	0	57.4	0.96	134.3	2.39
LEHI (SILVERMOUTH)	152.7	0.21	0	0	152.7	2.56	0	0
UKU (JOBFISH)	388.4	0.53	0	0	388.4	6.51	0	0
EHU (PINK SNAPPER)	236.7	0.32	0	0	236.7	3.96	0	0
BLUE LINED SNAPPER	70.4	0.10	0	0	60.9	1.02	9.5	0.17
YELLOWTAIL KALIKALI	826.7	1.12	0	0	826.7	13.85	0	0
OPAKAPAKA (PINK SNAP)	233.4	0.32	0	0	233.4	3.91	0	0
KALIKALI (PINK SNAPPER)	42.1	0.06	0	0	42.1	0.71	0	0
GINDAI (FLOWER SNAPPER)	187.1	0.25	0	0	187.1	3.13	0	0
FUSILIER	6.6	0.01	0	0	0	0	6.6	0.12
SWEETLIPS	58.8	0.08	0	0	0	0	58.8	1.05
EMPERORS	1233.0	1.67	0	0	1187.0	19.88	45.9	0.82
GOATFISH	88.0	0.12	0	0	68.4	1.15	19.6	0.35
SWEEPERS	27.2	0.04	0	0	0	0	27.2	0.48
RUDDERFISH	86.5	0.12	0	0	0	0	86.5	1.54
HAWKFISH	5.8	0.01	0	0	5.8	0.10	0	0
BARRACUDA	2026.7	2.75	1936.4	3.12	0	0	90.3	1.61
WRASSE	336.1	0.46	0	0	61.9	1.04	274.2	4.87
PARROTFISH	690.8	0.94	0	0	0	0	690.8	12.28
SURGEONFISH AND TANGS	443.8	0.60	0	0	0	0	443.8	7.89
RABBITFISH	2.3	0	0	0	0	0	2.3	0.04
WAHOO	4473.5	6.07	4473.5	7.21	0	0	0	0
DOGTOOTH TUNA	362.7	0.49	362.7	0.58	0	0	0	0
SKIPJACK TUNA	29652.2	40.25	29652.2	47.77	0	0	0	0
YELLOWFIN TUNA	18563.7	25.20	18563.7	29.91	0	0	0	0
BLUE MARLIN	2650.6	3.60	2650.6	4.27	0	0	0	0
TRIGGERFISH	56.4	0.08	0	0	56.4	0.94	0	0
ASSORTED BOTTOM FISH	76.2	0.10	0	0	76.2	1.28	0	0
SHALLOW BOTTOM FISH	1332.5	1.81	0	0	1332.5	22.32	0	0
ASSORTED REEF FISH	71.4	0.10	0	0	0	0	71.4	1.27
CRUSTACEANS	5.2	0.01	0	0	0	0	5.2	0.09
TOTAL ALL SPECIES:	73664.7	100.00	62068.5	84.26	5970.5	8.10	5625.7	7.64

Table IV.5.7

GUAM DAWR JUNE 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SHARKS	1151.9	1.86	0	0	776.4	8.45	375.5	4.82
FLYING FISH	3.0	0	0	0	0	0	3.0	0.04
SQUIRRELFISH	2247.1	3.62	0	0	1753.5	19.08	493.6	6.34
GROUPER	1464.6	2.36	0	0	1293.8	14.08	170.7	2.19
BIGEYES	6.6	0.01	0	0	6.6	0.07	0	0
JACKS	542.4	0.87	426.7	0.95	115.7	1.26	0	0
RAINBOW RUNNER	18.9	0.03	18.9	0.04	0	0	0	0
BIGEYE SCAD (AKULE)	445.3	0.72	0	0	0	0	445.3	5.72
SNAPPERS	138.2	0.22	0	0	84.9	0.92	53.3	0.68
LEHI (SILVERMOUTH)	122.6	0.20	0	0	122.6	1.33	0	0
UKU (JOBFISH)	188.8	0.30	0	0	188.8	2.05	0	0
EHU (PINK SNAPPER)	17.2	0.03	0	0	17.2	0.19	0	0
BLUE LINED SNAPPER	482.6	0.78	0	0	204.2	2.22	278.4	3.57
YELLOWTAIL KALIKALI	464.5	0.75	0	0	430.9	4.69	33.6	0.43
OPAKAPAKA (PINK SNAP)	24.8	0.04	0	0	24.8	0.27	0	0
GINDAI (FLOWER SNAPPER)	266.2	0.43	0	0	239.4	2.60	26.9	0.34
FUSILIER	70.0	0.11	0	0	53.7	0.58	16.3	0.21
SWEETLIPS	28.1	0.05	0	0	0	0	28.1	0.36
EMPERORS	2754.8	4.44	0	0	2727.0	29.67	27.8	0.36
GOATFISH	168.5	0.27	0	0	103.0	1.12	65.5	0.84
BATFISH	54.4	0.09	0	0	0	0	54.4	0.70
BARRACUDA	2464.1	3.97	2073.8	4.60	0	0	390.2	5.01
WRASSE	95.4	0.15	0	0	13.2	0.14	82.1	1.05
PARROTFISH	2111.7	3.40	0	0	23.0	0.25	2088.8	26.82
SURGEONFISH AND TANGS	1539.5	2.48	0	0	8.7	0.09	1530.8	19.66
RABBITFISH	131.1	0.21	0	0	0	0	131.1	1.68
WAHOO	1725.4	2.78	1725.4	3.82	0	0	0	0
DOGTOOTH TUNA	1703.4	2.74	1362.6	3.02	340.8	3.71	0	0
SKIPJACK TUNA	22767.3	36.67	22767.3	50.47	0	0	0	0
YELLOWFIN TUNA	10267.6	16.54	9924.5	22.00	0	0	343.0	4.40
BLUE MARLIN	6810.7	10.97	6810.7	15.10	0	0	0	0
TRIGGERFISH	171.5	0.28	0	0	164.6	1.79	6.8	0.09
ASSORTED BOTTOM FISH	463.7	0.75	0	0	463.7	5.05	0	0
SHALLOW BOTTOM FISH	33.1	0.05	0	0	33.1	0.36	0	0
ASSORTED REEF FISH	886.2	1.43	0	0	0	0	886.2	11.38
SQUID	3.0	0	0	0	0	0	3.0	0.04
OCTOPUS	15.1	0.02	0	0	0	0	15.1	0.19
SPINY LOBSTERS	172.7	0.28	0	0	0	0	172.7	2.22
CRABS	65.6	0.11	0	0	0	0	65.6	0.84
TOTAL ALL SPECIES:	62087.4	100.00	45109.9	72.66	9189.8	14.80	7787.8	12.54

Table IV.5.8

GUAM DAWR JULY 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
NEEDLEFISH	30.4	0.03	30.4	0.06	0	0	0	0
SQUIRRELFISH	386.3	0.43	0	0	0	0	386.3	1.51
GROUPER	1312.9	1.45	0	0	1108.5	8.23	204.5	0.80
BIGEYES	101.4	0.11	0	0	23.9	0.18	77.5	0.30
JACKS	1022.4	1.13	593.6	1.15	224.1	1.66	204.7	0.80
RAINBOW RUNNER	352.3	0.39	352.3	0.69	0	0	0	0
BIGEYE SCAD (AKULE)	19239.4	21.29	0	0	0	0	19239.4	75.42
DOLPHINFISH (MAHIMAHI)	625.5	0.69	625.5	1.22	0	0	0	0
SNAPPERS	1001.2	1.11	0	0	308.1	2.29	693.1	2.72
LEHI (SILVERMOUTH)	160.3	0.18	0	0	160.3	1.19	0	0
UKU (JOBFISH)	136.2	0.15	0	0	117.8	0.87	18.4	0.07
EHU (PINK SNAPPER)	569.4	0.63	0	0	569.4	4.23	0	0
ONAGA (RED SNAPPER)	468.1	0.52	0	0	468.1	3.47	0	0
BLUE LINED SNAPPER	131.9	0.15	0	0	131.9	0.98	0	0
YELLOWTAIL KALIKALI	251.4	0.28	0	0	251.4	1.87	0	0
OPAKAPAKA (PINK SNAP)	120.2	0.13	0	0	120.2	0.89	0	0
YELLOWEYE OPAKAPAKA	83.8	0.09	0	0	83.8	0.62	0	0
GINDAI (FLOWER SNAPPER)	271.0	0.30	0	0	271.0	2.01	0	0
SWEETLIPS	9.9	0.01	0	0	0	0	9.9	0.04
EMPERORS	2574.4	2.85	0	0	2574.4	19.11	0	0
GOATFISH	139.9	0.15	0	0	107.5	0.80	32.4	0.13
RUDDERFISH	26.6	0.03	0	0	0	0	26.6	0.10
BARRACUDA	1375.5	1.52	737.9	1.44	0	0	637.6	2.50
WRASSE	235.0	0.26	0	0	26.6	0.20	208.4	0.82
PARROTFISH	817.2	0.90	0	0	0	0	817.2	3.20
SURGEONFISH AND TANGS	26.1	0.03	0	0	0	0	26.1	0.10
WAHOO	3100.4	3.43	3100.4	6.03	0	0	0	0
KAWAKAWA	713.6	0.79	713.6	1.39	0	0	0	0
DOGTOOTH TUNA	564.2	0.62	311.3	0.61	199.1	1.48	53.8	0.21
SKIPJACK TUNA	8338.6	9.23	8338.6	16.22	0	0	0	0
YELLOWFIN TUNA	19033.7	21.06	19033.7	37.03	0	0	0	0
BLUE MARLIN	17560.9	19.43	17560.9	34.17	0	0	0	0
TRIGGERFISH	99.8	0.11	0	0	99.8	0.74	0	0
ASSORTED BOTTOM FISH	5788.5	6.40	0	0	5788.5	42.97	0	0
SHALLOW BOTTOM FISH	837.9	0.93	0	0	837.9	6.22	0	0
ASSORTED REEF FISH	2422.7	2.68	0	0	0	0	2422.7	9.50
MOLLUSKS	283.0	0.31	0	0	0	0	283.0	1.11
SPINY LOBSTERS	152.2	0.17	0	0	0	0	152.2	0.60
CRABS	14.2	0.02	0	0	0	0	14.2	0.06
TOTAL ALL SPECIES:	90378.3	100.00	51398.2	56.87	13472.1	14.91	25508.0	28.22

Table IV.5.9

GUAM DAWR AUGUST 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	% THIS TROLLING	GEAR	% THIS BOTTOM	GEAR	% THIS OTHER	GEAR
SHARKS	437.6	0.57	0	0	437.6	5.19	0	0
SQUIRRELFISH	24.9	0.03	0	0	0	0	24.9	0.69
GROUPER	531.4	0.69	0	0	519.0	6.16	12.4	0.35
JACKS	253.1	0.33	34.6	0.05	218.5	2.59	0	0
RAINBOW RUNNER	242.1	0.32	242.1	0.37	0	0	0	0
BIGEYE SCAD (AKULE)	3198.4	4.16	0	0	130.8	1.55	3067.5	85.57
DOLPHINFISH (MAHIMAHI)	828.0	1.08	828.0	1.28	0	0	0	0
POMFRET	8.7	0.01	8.7	0.01	0	0	0	0
SNAPPERS	691.4	0.90	0	0	683.4	8.11	8.0	0.22
UKU (JOBFISH)	338.8	0.44	0	0	338.8	4.02	0	0
EHU (PINK SNAPPER)	57.9	0.08	0	0	57.9	0.69	0	0
BLUE LINED SNAPPER	92.7	0.12	0	0	92.7	1.10	0	0
SWEETLIPS	7.0	0.01	0	0	0	0	7.0	0.20
EMPERORS	1723.0	2.24	0	0	1723.0	20.44	0	0
GOATFISH	25.7	0.03	0	0	25.7	0.31	0	0
HAWKFISH	1.8	0	0	0	1.8	0.02	0	0
BARRACUDA	347.9	0.45	347.9	0.54	0	0	0	0
WRASSE	12.1	0.02	0	0	12.1	0.14	0	0
PARROTFISH	231.0	0.30	0	0	0	0	231.0	6.44
SURGEONFISH AND TANGS	28.3	0.04	0	0	28.3	0.34	0	0
WAHOO	16333.2	21.25	16333.2	25.19	0	0	0	0
DOGTOOTH TUNA	438.3	0.57	438.3	0.68	0	0	0	0
SKIPJACK TUNA	17013.8	22.14	17013.8	26.24	0	0	0	0
YELLOWFIN TUNA	17038.0	22.17	17038.0	26.28	0	0	0	0
BLUE MARLIN	12559.2	16.34	12559.2	19.37	0	0	0	0
TRIGGERFISH	23.2	0.03	0	0	23.2	0.27	0	0
ASSORTED BOTTOM FISH	2827.4	3.68	0	0	2827.4	33.55	0	0
SHALLOW BOTTOM FISH	643.6	0.84	0	0	643.6	7.64	0	0
DEEP BOTTOM FISH	548.3	0.71	0	0	548.3	6.51	0	0
SHALLOW SNAPPERS	115.8	0.15	0	0	115.8	1.37	0	0
ASSORTED REEF FISH	234.0	0.30	0	0	0	0	234.0	6.53
TOTAL ALL SPECIES:	76856.8	100.00	64843.9	84.37	8428.1	10.97	3584.8	4.66

Table IV.5.10

GUAM DAWR SEPTEMBER 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SHARKS	197.3	0.26	0	0	197.3	1.60	0	0
SQUIRRELFISH	86.2	0.11	0	0	48.6	0.39	37.6	1.90
SCORPIONFISH	51.3	0.07	0	0	0	0	51.3	2.59
GROUPER	1337.5	1.75	0	0	1149.7	9.32	187.8	9.49
BIGEYES	3.1	0	0	0	3.1	0.03	0	0
JACKS	939.8	1.23	0	0	892.4	7.23	47.4	2.40
DOLPHINFISH (MAHIMAHI)	87.5	0.11	87.5	0.14	0	0	0	0
SNAPPERS	698.8	0.91	10.7	0.02	631.2	5.12	56.9	2.87
LEHI (SILVERMOUTH)	344.4	0.45	0	0	344.4	2.79	0	0
UKU (JOBFISH)	609.0	0.79	0	0	609.0	4.94	0	0
EHU (PINK SNAPPER)	187.9	0.25	0	0	187.9	1.52	0	0
BLUE LINED SNAPPER	156.9	0.20	0	0	156.9	1.27	0	0
YELLOWTAIL KALIKALI	540.1	0.71	0	0	540.1	4.38	0	0
OPAKAPAKA (PINK SNAP)	626.2	0.82	0	0	626.2	5.08	0	0
YELLOWEYE OPAKAPAKA	140.9	0.18	0	0	140.9	1.14	0	0
KALIKALI (PINK SNAPPER)	43.8	0.06	0	0	43.8	0.36	0	0
GINDAI (FLOWER SNAPPER)	205.1	0.27	0	0	205.1	1.66	0	0
EMPERORS	1808.9	2.36	0	0	1808.9	14.67	0	0
GOATFISH	762.4	1.00	0	0	748.0	6.06	14.3	0.73
RUDDERFISH	435.9	0.57	0	0	0	0	435.9	22.03
BUTTERFLYFISH	0.7	0	0	0	0	0	0.7	0.04
ANGELFISH	5.1	0.01	0	0	0	0	5.1	0.26
BARRACUDA	693.3	0.90	693.3	1.11	0	0	0	0
WRASSE	61.4	0.08	0	0	35.7	0.29	25.7	1.30
PARROTFISH	667.6	0.87	0	0	0	0	667.6	33.74
SURGEONFISH AND TANGS	98.9	0.13	0	0	0	0	98.9	5.00
TUNAS	9.7	0.01	9.7	0.02	0	0	0	0
WAHOO	13415.0	17.51	13415.0	21.53	0	0	0	0
KAWAKAWA	34.0	0.04	34.0	0.05	0	0	0	0
DOGTOOTH TUNA	220.1	0.29	186.0	0.30	0	0	34.0	1.72
SKIPJACK TUNA	13625.6	17.78	13625.6	21.87	0	0	0	0
YELLOWFIN TUNA	15831.7	20.66	15831.7	25.41	0	0	0	0
BLUE MARLIN	18407.2	24.03	18407.2	29.55	0	0	0	0
TRIGGERFISH	151.2	0.20	0	0	151.2	1.23	0	0
TRIPLETOOTH PUFFERS	62.6	0.08	0	0	62.6	0.51	0	0
ASSORTED BOTTOM FISH	297.5	0.39	0	0	297.5	2.41	0	0
SHALLOW BOTTOM FISH	2420.4	3.16	0	0	2420.4	19.62	0	0
DEEP BOTTOM FISH	1033.3	1.35	0	0	1033.3	8.38	0	0
ASSORTED REEF FISH	315.4	0.41	0	0	0	0	315.4	15.94
TOTAL ALL SPECIES:	76613.9	100.00	62300.8	81.32	12334.5	16.10	1978.6	2.58

Table IV.5.11

GUAM DAWR OCTOBER 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SQUIRRELFISH	182.9	0.38	0	0	175.0	4.05	8.0	0.07
GROUPER	1471.0	3.09	0	0	674.1	15.62	796.9	7.05
JACKS	503.4	1.06	16.7	0.05	486.6	11.27	0	0
RAINBOW RUNNER	267.7	0.56	267.7	0.84	0	0	0	0
BIGEYE SCAD (AKULE)	756.2	1.59	0	0	0	0	756.2	6.69
DOLPHINFISH (MAHIMAHI)	761.2	1.60	761.2	2.38	0	0	0	0
SNAPPERS	267.8	0.56	0	0	133.8	3.10	134.0	1.19
UKU (JOBFISH)	496.1	1.04	0	0	0	0	496.1	4.39
EHU (PINK SNAPPER)	152.1	0.32	0	0	152.1	3.52	0	0
ONAGA (RED SNAPPER)	233.2	0.49	0	0	233.2	5.40	0	0
BLUE LINED SNAPPER	44.6	0.09	0	0	44.6	1.03	0	0
YELLOWTAIL KALIKALI	43.9	0.09	0	0	43.9	1.02	0	0
OPAKAPAKA (PINK SNAP)	72.7	0.15	0	0	72.7	1.68	0	0
YELLOWEYE OPAKAPAKA	327.1	0.69	0	0	327.1	7.58	0	0
KALIKALI (PINK SNAPPER)	108.1	0.23	0	0	108.1	2.51	0	0
GINDAI (FLOWER SNAPPER)	54.1	0.11	0	0	54.1	1.25	0	0
BREAM	3.4	0.01	0	0	3.4	0.08	0	0
EMPERORS	774.7	1.63	0	0	766.8	17.76	7.9	0.07
GOATFISH	81.1	0.17	0	0	81.1	1.88	0	0
RUDDERFISH	203.4	0.43	0	0	0	0	203.4	1.80
BARRACUDA	1229.6	2.58	1229.6	3.85	0	0	0	0
WRASSE	706.6	1.48	0	0	96.3	2.23	610.3	5.40
PARROTFISH	1461.6	3.07	0	0	0	0	1461.6	12.94
SURGEONFISH AND TANGS	19.8	0.04	0	0	0	0	19.8	0.18
WAHOO	19623.0	41.23	19623.0	61.37	0	0	0	0
KAWAKAWA	803.0	1.69	803.0	2.51	0	0	0	0
DOGTOOTH TUNA	1104.1	2.32	1104.1	3.45	0	0	0	0
SKIPJACK TUNA	2400.6	5.04	2400.6	7.51	0	0	0	0
YELLOWFIN TUNA	4893.2	10.28	4893.2	15.30	0	0	0	0
BLUE MARLIN	878.3	1.85	878.3	2.75	0	0	0	0
TRIGGERFISH	25.7	0.05	0	0	25.7	0.59	0	0
TRIPLETOOTH PUFFERS	27.0	0.06	0	0	27.0	0.63	0	0
SHALLOW BOTTOM FISH	811.1	1.70	0	0	811.1	18.79	0	0
MOLLUSKS	6801.8	14.29	0	0	0	0	6801.8	60.21
TOTAL ALL SPECIES:	47589.8	100.00	31977.2	67.19	4316.6	9.07	11295.9	23.74

Table IV.5.12

GUAM DAWR NOVEMBER 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
NEEDLEFISH	29.6	0.03	0	0	0	0	29.6	0.44
SQUIRRELFISH	212.8	0.21	0	0	212.8	2.38	0	0
GROUPER	538.2	0.54	0	0	536.5	6.00	1.6	0.02
BIGEYES	40.8	0.04	0	0	40.8	0.46	0	0
CARDINALFISH	3.6	0	0	0	3.6	0.04	0	0
JACKS	2125.9	2.12	208.6	0.25	1917.3	21.45	0	0
RAINBOW RUNNER	127.9	0.13	127.9	0.15	0	0	0	0
BIGEYE SCAD (AKULE)	6022.0	6.01	0	0	0	0	6022.0	89.74
DOLPHINFISH (MAHIMAHI)	6528.1	6.52	6528.1	7.72	0	0	0	0
SNAPPERS	571.1	0.57	72.0	0.09	499.1	5.58	0	0
LEHI (SILVERMOUTH)	529.9	0.53	0	0	529.9	5.93	0	0
UKU (JOBFISH)	611.9	0.61	0	0	611.9	6.85	0	0
BLUE LINED SNAPPER	257.6	0.26	0	0	257.6	2.88	0	0
YELLOWTAIL KALIKALI	1195.8	1.19	0	0	1195.8	13.38	0	0
OPAKAPAKA (PINK SNAP)	140.0	0.14	0	0	140.0	1.57	0	0
YELLOWEYE OPAKAPAKA	64.0	0.06	0	0	64.0	0.72	0	0
GINDAI (FLOWER SNAPPER)	899.9	0.90	0	0	899.9	10.07	0	0
EMPERORS	685.1	0.68	0	0	685.1	7.66	0	0
GOATFISH	196.4	0.20	0	0	196.4	2.20	0	0
MULLET	97.7	0.10	0	0	0	0	97.7	1.46
BARRACUDA	625.1	0.62	545.1	0.64	0	0	79.9	1.19
WRASSE	96.0	0.10	0	0	96.0	1.07	0	0
PARROTFISH	65.2	0.07	0	0	0	0	65.2	0.97
SURGEONFISH AND TANGS	37.8	0.04	0	0	10.0	0.11	27.8	0.41
TUNAS	134.6	0.13	134.6	0.16	0	0	0	0
WAHOO	63430.7	63.31	63430.7	75.03	0	0	0	0
KAWAKAWA	225.5	0.23	225.5	0.27	0	0	0	0
DOGTOOTH TUNA	150.2	0.15	94.2	0.11	56.0	0.63	0	0
SKIPJACK TUNA	7450.2	7.44	7450.2	8.81	0	0	0	0
YELLOWFIN TUNA	5720.5	5.71	5720.5	6.77	0	0	0	0
TRIGGERFISH	166.8	0.17	0	0	166.8	1.87	0	0
TRIPLETOOTH PUFFERS	120.0	0.12	0	0	120.0	1.34	0	0
SMOOTH PUFFERS	40.0	0.04	0	0	40.0	0.45	0	0
ASSORTED BOTTOM FISH	567.9	0.57	0	0	567.9	6.35	0	0
SHALLOW BOTTOM FISH	92.0	0.09	0	0	92.0	1.03	0	0
ASSORTED REEF FISH	377.4	0.38	0	0	0	0	377.4	5.62
OCTOPUS	9.3	0.01	0	0	0	0	9.3	0.14
TOTAL ALL SPECIES:	100187.4	100.00	84537.4	84.38	8939.2	8.92	6710.7	6.70

Table IV.5.13

GUAM DAWR DECEMBER 1985
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SHARKS	131.3	0.23	0	0	0	0	131.3	4.22
SQUIRRELFISH	30.6	0.05	0	0	25.4	1.51	5.2	0.17
GROUPER	1200.3	2.09	0	0	107.1	6.37	1093.3	35.13
FALSE WHITING	3.7	0.01	0	0	3.7	0.22	0	0
JACKS	411.8	0.72	0	0	411.8	24.51	0	0
RAINBOW RUNNER	193.5	0.34	193.5	0.37	0	0	0	0
DOLPHINFISH (MAHIMAHI)	1451.4	2.53	1451.4	2.76	0	0	0	0
UKU (JOBFISH)	163.8	0.29	0	0	163.8	9.75	0	0
BLUE LINED SNAPPER	9.2	0.02	0	0	9.2	0.54	0	0
YELLOWTAIL KALIKALI	11.9	0.02	0	0	11.9	0.71	0	0
OPAKAPAKA (PINK SNAP)	16.0	0.03	0	0	16.0	0.95	0	0
GINDAI (FLOWER SNAPPER)	14.6	0.03	0	0	14.6	0.87	0	0
EMPERORS	696.4	1.21	0	0	681.3	40.56	15.2	0.49
GOATFISH	16.4	0.03	0	0	13.7	0.82	2.7	0.09
WRASSE	36.6	0.06	0	0	36.6	2.18	0	0
PARROTFISH	1687.2	2.94	0	0	0	0	1687.2	54.21
SURGEONFISH AND TANGS	138.0	0.24	0	0	0	0	138.0	4.44
RABBITFISH	15.8	0.03	0	0	0	0	15.8	0.51
WAHOO	37095.3	64.57	37095.3	70.45	0	0	0	0
KAWAKAWA	103.2	0.18	103.2	0.20	0	0	0	0
DOGTOOTH TUNA	290.3	0.51	290.3	0.55	0	0	0	0
SKIPJACK TUNA	6695.9	11.66	6695.9	12.72	0	0	0	0
YELLOWFIN TUNA	5418.7	9.43	5418.7	10.29	0	0	0	0
SAILFISH	1406.3	2.45	1406.3	2.67	0	0	0	0
TRIGGERFISH	184.9	0.32	0	0	184.9	11.00	0	0
SLIPPER LOBSTERS	23.6	0.04	0	0	0	0	23.6	0.76
TOTAL ALL SPECIES:	57446.8	100.00	52654.7	91.66	1679.9	2.92	3112.2	5.42

Table IV.6.1

GUAM DAWR JANUARY 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	14658.2	19	1105.8	24	211.5	26	2929.9	36	574.4	40	11.0	26
TOTAL:	14658.2	19	1105.8	24	211.5	26	2929.9	36	574.4	40	11.0	26

Table IV.6.2

GUAM DAWR FEBRUARY 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	42230.9	24	3519.5	31	498.7	31	9478.5	31	1335.2	30	11.7	13
BOTTOM FISH	10931.5	68	816.2	57	145.6	40	2251.9	58	400.1	41	11.4	36*
SPEAR SCUBA	7.2	87	7.5	87	7.5	87	15.1	87	15.1	87	.9	0*
TOTAL:	53169.6	31	4343.3	35	500.4	27	11745.6	36	1340.5	25	11.4	12

Table IV.6.3

GUAM DAWR MARCH 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	46322.3	27	4099.8	30	861.6	21	12517.4	28	2634.6	19	12.3	13
BOTTOM FISH	674.1	54	246.0	65	74.8	33	771.5	65	229.5	44	3.8	22*
OTHER	10.5	90	12.3	90	19.0	90	37.0	90	56.9	90	.8	0*
TOTAL:	47006.9	27	4358.1	31	871.7	23	13325.9	29	2653.5	22	11.7	19

* Not enough data to properly compute Coefficient of Variation (CV).

Table IV.6.4

GUAM DAWR APRIL 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	35130.6	57	3130.6	42	541.9	32	8925.6	36	1589.7	25	7.5	62
BOTTOM FISH	507.1	33	120.1	20	45.4	31	317.1	22	114.1	26	3.3	52*
SPEAR SNORKEL	376.9	95	14.9	95	14.9	95	29.7	95	29.7	95	25.4	0*
SPEAR SCUBA	384.7	87	12.0	87	8.0	87	36.0	87	24.0	87	32.1	0*
TOTAL:	36399.3	57	3277.6	42	554.7	34	9308.5	36	1611.0	27	7.4	62

Table IV.6.5

GUAM DAWR MAY 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	32902.7	32	2918.0	5	625.8	21	8837.4	2	1880.3	18	11.1	38
BOTTOM FISH	2578.3	76	488.1	74	77.0	70	1464.3	74	231.0	70	5.0	10*
SPEAR SNORKEL	2087.1	95	68.9	95	17.2	95	137.7	95	34.4	95	30.3	0*
SPEAR SCUBA	85.0	95	17.2	95	17.2	95	51.6	95	51.6	95	4.9	0*
OTHER	9.5	95	34.4	95	17.2	95	103.3	95	51.6	95	.3	0*
TOTAL:	37662.6	33	3526.6	15	623.1	18	10594.3	11	1826.8	14	10.6	37

Table IV.6.6

GUAM DAWR JUNE 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	37117.2	28	4329.3	22	793.3	17	12714.3	19	2417.0	14	8.5	10
BOTTOM FISH	2809.2	21	807.1	9	190.1	27	2038.1	18	500.3	35	2.9	35*
ATULAI JIG	2265.2	88	251.8	66	28.0	65	363.5	65	41.9	67	10.1	0*
SPEAR MIX	1169.8	95	31.5	95	14.0	95	126.0	95	56.0	95	37.1	0*
SPEAR SNORKEL	1508.0	76	194.3	51	32.4	51	575.7	52	95.9	52	6.1	0*
OTHER	924.0	88	39.7	57	23.3	35	79.4	57	46.7	35	66.1	141*
TOTAL:	45793.2	19	5653.6	14	910.6	13	15897.0	14	2622.1	12	7.8	5

* Not enough data to properly compute Coefficient of Variation (CV).

Table IV.6.7

GUAM DAWR JULY 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	18987.5	11	4592.6	7	1638.6	5	12182.3	12	1987.6	8	3.4	31
BOTTOM FISH	2433.0	26	556.7	7	198.2	27	1199.7	7	420.3	26	4.7	46
ATULAI JIG	0	0	26.7	95	13.3	95	53.3	95	26.7	95	0	0*
SPEAR SNORKEL	2445.5	74	228.2	73	54.0	76	351.3	64	78.6	65	10.5	0*
SPEAR SCUBA	424.1	87	12.3	87	12.3	87	36.9	87	36.9	87	34.5	0*
OTHER	29.4	95	13.3	95	13.3	95	26.7	95	26.7	95	2.2	0*
TOTAL:	24319.5	10	5429.8	5	1712.5	5	13850.2	9	2185.7	3	5.3	23

Table IV.6.8

GUAM DAWR AUGUST 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	20561.0	75	2300.2	54	515.8	55	6003.8	45	1345.9	45	8.0	151*
BOTTOM FISH	2674.9	80	441.5	77	131.2	71	1149.5	84	315.1	80	5.4	0*
ATULAI JIG	15486.3	63	697.3	55	93.3	45	2238.5	45	304.2	34	20.5	20*
SPEAR SNORKEL	335.9	89	31.7	89	7.9	89	95.2	89	23.8	89	10.6	0*
TOTAL:	39058.2	66	3470.7	52	586.9	49	9487.0	42	1603.2	38	10.5	73

Table IV.6.9

GUAM DAWR SEPTEMBER 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	24309.3	22	1880.1	28	360.8	21	4540.8	22	894.3	15	14.0	27
BOTTOM FISH	2411.3	47	465.2	56	80.6	41	683.4	38	138.9	32	6.0	74*
SPEAR SNORKEL	29.4	88	3.2	88	6.3	88	6.3	88	12.6	88	9.3	0*
SPEAR SCUBA	64.3	95	27.3	95	13.6	95	163.6	95	81.8	95	2.4	0*
TOTAL:	26814.4	21	2375.7	30	369.8	20	5394.2	24	912.9	16	12.5	35

* Not enough data to properly compute Coefficient of Variation (CV).

Table IV.6.10

GUAM DAWR OCTOBER 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	13345.9	63	3047.9	43	692.8	36	8902.6	43	2079.1	33	6.2	79
BOTTOM FISH	1211.2	36	475.4	54	118.9	48	1101.7	55	275.7	48	3.6	86*
SPEAR SNORKEL	1050.3	88	109.3	88	27.3	88	218.6	88	54.7	88	9.6	0*
TOTAL:	15607.5	62	3632.6	44	657.0	30	10222.9	44	1941.4	28	6.1	77

Table IV.6.11

GUAM DAWR NOVEMBER 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	25294.8	13	3829.1	6	723.5	8	12588.0	9	2402.0	16	6.7	17
BOTTOM FISH	590.5	92	251.9	92	58.1	92	713.8	92	164.7	92	2.3	0*
SPEAR MIX	632.8	92	80.9	92	26.1	92	323.6	92	104.4	92	7.8	0*
SPEAR SCUBA	249.9	92	29.2	92	8.3	92	58.3	92	16.7	92	8.6	0*
TOTAL:	26767.9	12	4191.1	9	742.4	6	13683.7	12	2473.7	13	6.5	19

Table IV.6.12

GUAM DAWR DECEMBER 1986
OFFSHORE CREEL SURVEY EXPANSION SUMMARY

GEAR	CATCH	CV	BOAT HRS	CV	BOAT CNT	CV	PRSN HRS	CV	PRSN CNT	CV	CPUE	CV
TROLLING	34299.7	53	3212.5	32	512.3	26	7806.2	15	1311.5	15	11.0	4*
BOTTOM FISH	908.4	63	103.8	36	76.8	52	237.5	32	163.6	47	8.2	38*
SPEAR SCUBA	198.4	89	30.0	89	10.0	89	30.0	89	10.0	89	6.6	0*
OTHER	26.5	89	20.0	89	10.0	89	60.0	89	30.0	89	1.3	0*
TOTAL:	35432.9	53	3366.3	31	529.4	26	8133.7	15	1292.6	14	10.8	0

* Not enough data to properly compute Coefficient of Variation (CV).

Table IV.7.1

GUAM DAWR ANNUAL 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SHARKS	1488.0	0.36	916.5	0.26	237.2	0.79	334.3	1.12
MORAY EELS	22.5	0.01	0	0	22.5	0.08	0	0
LIZARDFISH	6.7	0	0	0	6.7	0.02	0	0
NEEDLEFISH	116.8	0.03	68.1	0.02	0	0	48.7	0.16
SQUIRRELFISH	1686.4	0.41	0	0	1276.9	4.27	409.5	1.37
FLYING GURNARD	37.5	0.01	0	0	37.5	0.13	0	0
GROUPER	1702.7	0.42	31.4	0.01	1225.7	4.10	445.6	1.50
CARDINALFISH	2.0	0	0	0	2.0	0.01	0	0
JACKS	7683.9	1.88	724.2	0.21	5852.0	19.58	1107.7	3.72
RAINBOW RUNNER	2054.1	0.50	2054.1	0.59	0	0	0	0
BIGEYE SCAD (AKULE)	15385.6	3.77	0	0	18.0	0.06	15367.6	51.60
DOLPHINFISH (MAHIMAHI)	85393.0	20.90	85393.0	24.48	0	0	0	0
SNAPPERS	2277.8	0.56	32.7	0.01	1910.9	6.39	334.1	1.12
LEHI (SILVERMOUTH)	609.2	0.15	0	0	609.2	2.04	0	0
UKU (JOBFISH)	1348.3	0.33	0	0	1348.3	4.51	0	0
EHU (PINK SNAPPER)	694.1	0.17	0	0	694.1	2.32	0	0
ONAGA (RED SNAPPER)	309.6	0.08	0	0	309.6	1.04	0	0
BLUE LINED SNAPPER	294.1	0.07	0	0	199.0	0.67	95.1	0.32
YELLOWTAIL KALIKALI	1179.2	0.29	0	0	1179.2	3.94	0	0
OPAKAPAKA (PINK SNAP)	704.1	0.17	0	0	704.1	2.36	0	0
YELLOWEYE OPAKAPAKA	1393.7	0.34	0	0	1393.7	4.66	0	0
KALIKALI (PINK SNAPPER)	22.5	0.01	0	0	22.5	0.08	0	0
GINDAI (FLOWER SNAPPER)	842.4	0.21	0	0	842.4	2.82	0	0
SWEETLIPS	38.9	0.01	0	0	0	0	38.9	0.13
EMPERORS	5361.5	1.31	0	0	4272.9	14.29	1088.6	3.65
GOATFISH	286.5	0.07	0	0	146.8	0.49	139.7	0.47
SWEEPERS	12.1	0	0	0	8.4	0.03	3.7	0.01
RUDDERFISH	1109.3	0.27	0	0	0	0	1109.3	3.72
ANGELFISH	3.8	0	0	0	0	0	3.8	0.01
HAWKFISH	1.2	0	0	0	1.2	0	0	0
BARRACUDA	6050.0	1.48	5836.1	1.67	136.1	0.46	77.7	0.26
WRASSE	449.4	0.11	0	0	254.3	0.85	195.1	0.66
PARROTFISH	3153.0	0.77	0	0	0	0	3153.0	10.59
SURGEONFISH AND TANGS	1710.8	0.42	0	0	0	0	1710.8	5.74
RABBITFISH	45.3	0.01	0	0	0	0	45.3	0.15
TUNAS	39.9	0.01	0	0	39.9	0.13	0	0
WAHOO	68829.9	16.85	68829.9	19.73	0	0	0	0
KAWAKAWA	9.0	0	9.0	0	0	0	0	0
DOGTOOTH TUNA	4159.3	1.02	3314.6	0.95	656.6	2.20	188.2	0.63

Table IV.7.1 (Cont)

GUAM DAWR ANNUAL 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SKIPJACK TUNA	73199.3	17.92	73199.3	20.98	0	0	0	0
YELLOWFIN TUNA	47289.5	11.58	47289.5	13.56	0	0	0	0
SAILFISH	1474.3	0.36	1474.3	0.42	0	0	0	0
BLUE MARLIN	57681.6	14.12	57681.6	16.54	0	0	0	0
FLOUNDER	5.9	0	0	0	0	0	5.9	0.02
TRIGGERFISH	278.1	0.07	0	0	278.1	0.93	0	0
FILEFISH	16.2	0	0	0	0	0	16.2	0.05
TRIPLETOOTH PUFFERS	122.3	0.03	0	0	122.3	0.41	0	0
ASSORTED BOTTOM FISH	3323.2	0.81	0	0	3323.2	11.12	0	0
SHALLOW BOTTOM FISH	1218.4	0.30	0	0	1113.6	3.73	104.8	0.35
DEEP BOTTOM FISH	1268.4	0.31	0	0	1268.4	4.24	0	0
ASSORTED TROLLING FISH	1969.8	0.48	1969.8	0.56	0	0	0	0
ASSORTED REEF FISH	1930.1	0.47	0	0	379.0	1.27	1551.2	5.21
MOLLUSKS	1068.5	0.26	0	0	0	0	1068.5	3.59
OCTOPUS	28.0	0.01	0	0	0	0	28.0	0.09
SPINY LOBSTERS	1005.9	0.25	0	0	0	0	1005.9	3.38
SLIPPER LOBSTERS	35.6	0.01	0	0	0	0	35.6	0.12
CRABS	72.3	0.02	0	0	0	0	72.3	0.24
TOTAL ALL SPECIES:	408501.7	100.00	348824.3	85.39	29892.5	7.32	29784.9	7.29

Table IV.7.2

GUAM DAWR JANUARY 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR
DOLPHINFISH (MAHIMAHI)	7667.5	52.31	7667.5	52.31
WAHOO	3049.7	20.81	3049.7	20.81
SKIPJACK TUNA	2059.1	14.05	2059.1	14.05
YELLOWFIN TUNA	1881.9	12.84	1881.9	12.84
TOTAL ALL SPECIES:	14658.2	100.00	14658.2	100.00

Table IV.7.3

GUAM DAWR FEBRUARY 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SHARKS	156.5	0.29	0	0	156.5	1.43	0	0
NEEDLEFISH	28.0	0.05	28.0	0.07	0	0	0	0
SQUIRRELFISH	23.9	0.04	0	0	20.9	0.19	3.0	41.86
FLYING GURNARD	39.1	0.07	0	0	39.1	0.36	0	0
GROUPER	69.6	0.13	0	0	69.6	0.64	0	0
JACKS	4292.5	8.07	166.1	0.39	4126.4	37.75	0	0
RAINBOW RUNNER	802.8	1.51	802.8	1.90	0	0	0	0
DOLPHINFISH (MAHIMAHI)	13452.7	25.30	13452.7	31.86	0	0	0	0
SNAPPERS	1671.9	3.14	0	0	1671.9	15.29	0	0
LEHI (SILVERMOUTH)	52.2	0.10	0	0	52.2	0.48	0	0
UKU (JOBFISH)	545.1	1.03	0	0	545.1	4.99	0	0
EHU (PINK SNAPPER)	39.1	0.07	0	0	39.1	0.36	0	0
ONAGA (RED SNAPPER)	39.1	0.07	0	0	39.1	0.36	0	0
BLUE LINED SNAPPER	72.0	0.14	0	0	72.0	0.66	0	0
YELLOWTAIL KALIKALI	313.0	0.59	0	0	313.0	2.86	0	0
OPAKAPAKA (PINK SNAP)	658.6	1.24	0	0	658.6	6.02	0	0
YELLOWEYE OPAKAPAKA	164.3	0.31	0	0	164.3	1.50	0	0
EMPERORS	2110.1	3.97	0	0	2110.1	19.30	0	0
BARRACUDA	2897.4	5.45	2897.4	6.86	0	0	0	0
SURGEONFISH AND TANGS	4.2	0.01	0	0	0	0	4.2	58.14
TUNAS	41.7	0.08	0	0	41.7	0.38	0	0
WAHOO	17616.0	33.13	17616.0	41.71	0	0	0	0
DOGTOOTH TUNA	426.3	0.80	230.7	0.55	195.6	1.79	0	0
SKIPJACK TUNA	3386.4	6.37	3386.4	8.02	0	0	0	0
YELLOWFIN TUNA	3650.9	6.87	3650.9	8.65	0	0	0	0
TRIGGERFISH	16.2	0.03	0	0	16.2	0.15	0	0
ASSORTED BOTTOM FISH	482.5	0.91	0	0	482.5	4.41	0	0
SHALLOW BOTTOM FISH	117.4	0.22	0	0	117.4	1.07	0	0
TOTAL ALL SPECIES:	53169.6	100.00	42230.9	79.43	10931.5	20.56	7.2	0.01

Table IV.7.4

GUAM DAWR MARCH 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	% THIS TROLLING	GEAR	% THIS BOTTOM	GEAR	% THIS OTHER	GEAR
GROUPER	102.3	0.22	0	0	102.3	15.18	0	0
JACKS	37.7	0.08	0	0	37.7	5.59	0	0
DOLPHINFISH (MAHIMAHI)	36813.7	78.32	36813.7	79.47	0	0	0	0
BLUE LINED SNAPPER	40.2	0.09	0	0	40.2	5.96	0	0
YELLOWEYE OPAKAPAKA	19.5	0.04	0	0	19.5	2.89	0	0
GINDAI (FLOWER SNAPPER)	12.6	0.03	0	0	12.6	1.86	0	0
EMPERORS	40.8	0.09	0	0	40.8	6.05	0	0
GOATFISH	10.0	0.02	0	0	10.0	1.49	0	0
WAHOO	5071.2	10.79	5071.2	10.95	0	0	0	0
SKIPJACK TUNA	1166.7	2.48	1166.7	2.52	0	0	0	0
YELLOWFIN TUNA	202.3	0.43	202.3	0.44	0	0	0	0
TRIGGERFISH	40.8	0.09	0	0	40.8	6.05	0	0
ASSORTED BOTTOM FISH	370.3	0.79	0	0	370.3	54.93	0	0
ASSORTED TROLLING FISH	3068.4	6.53	3068.4	6.62	0	0	0	0
SLIPPER LOBSTERS	10.5	0.02	0	0	0	0	10.5	100.00
TOTAL ALL SPECIES:	47006.9	100.00	46322.3	98.54	674.1	1.43	10.5	0.02

Table IV.7.5

GUAM DAWR APRIL 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SQUIRRELFISH	211.2	0.58	0	0	211.2	41.65	0	0
GROUPER	177.4	0.49	0	0	8.4	1.65	169.1	22.20
CARDINALFISH	1.4	0	0	0	1.4	0.27	0	0
JACKS	53.6	0.15	0	0	29.1	5.73	24.6	3.23
DOLPHINFISH (MAHIMAHI)	24475.1	67.24	24475.1	69.67	0	0	0	0
SNAPPERS	8.3	0.02	0	0	4.3	0.84	4.1	0.53
EMPERORS	68.8	0.19	0	0	68.8	13.56	0	0
GOATFISH	9.6	0.03	0	0	9.6	1.89	0	0
BARRACUDA	172.8	0.47	172.8	0.49	0	0	0	0
WRASSE	10.3	0.03	0	0	10.3	2.02	0	0
PARROTFISH	100.6	0.28	0	0	0	0	100.6	13.20
SURGEONFISH AND TANGS	56.6	0.16	0	0	0	0	56.6	7.44
WAHOO	3021.9	8.30	3021.9	8.60	0	0	0	0
SKIPJACK TUNA	2841.5	7.81	2841.5	8.09	0	0	0	0
YELLOWFIN TUNA	971.5	2.67	971.5	2.77	0	0	0	0
SAILFISH	1420.7	3.90	1420.7	4.04	0	0	0	0
BLUE MARLIN	2227.1	6.12	2227.1	6.34	0	0	0	0
TRIGGERFISH	47.9	0.13	0	0	47.9	9.44	0	0
SHALLOW BOTTOM FISH	116.3	0.32	0	0	116.3	22.93	0	0
ASSORTED REEF FISH	370.3	1.02	0	0	0	0	370.3	48.63
OCTOPUS	23.1	0.06	0	0	0	0	23.1	3.03
SPINY LOBSTERS	6.6	0.02	0	0	0	0	6.6	0.86
CRABS	6.7	0.02	0	0	0	0	6.7	0.88
TOTAL ALL SPECIES:	36399.3	100.00	35130.6	96.51	507.1	1.39	761.5	2.09

Table IV.7.6

GUAM DAWR MAY 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
MORAY EELS	16.8	0.04	0	0	16.8	0.65	0	0
SQUIRRELFISH	1088.8	2.89	0	0	577.2	22.39	511.7	23.45
GROUPER	90.2	0.24	0	0	61.9	2.40	28.4	1.30
JACKS	1587.9	4.22	1188.8	3.61	389.6	15.11	9.5	0.43
DOLPHINFISH (MAHIMAHI)	11953.3	31.74	11953.3	36.33	0	0	0	0
SNAPPERS	52.4	0.14	0	0	52.4	2.03	0	0
LEHI (SILVERMOUTH)	346.7	0.92	0	0	346.7	13.45	0	0
UKU (JOBFISH)	20.5	0.05	0	0	20.5	0.80	0	0
BLUE LINED SNAPPER	14.7	0.04	0	0	14.7	0.57	0	0
YELLOWTAIL KALIKALI	3.5	0.01	0	0	3.5	0.14	0	0
OPAKAPAKA (PINK SNAP)	22.4	0.06	0	0	22.4	0.87	0	0
YELLOWEYE OPAKAPAKA	779.2	2.07	0	0	779.2	30.22	0	0
GINDAI (FLOWER SNAPPER)	36.7	0.10	0	0	36.7	1.42	0	0
EMPERORS	90.7	0.24	0	0	67.5	2.62	23.2	1.06
GOATFISH	27.8	0.07	0	0	19.0	0.74	8.8	0.40
RUDDERFISH	23.2	0.06	0	0	0	0	23.2	1.06
BARRACUDA	212.9	0.57	212.9	0.65	0	0	0	0
PARROTFISH	139.1	0.37	0	0	0	0	139.1	6.38
SURGEONFISH AND TANGS	904.4	2.40	0	0	0	0	904.4	41.46
WAHOO	3643.4	9.67	3643.4	11.07	0	0	0	0
SKIPJACK TUNA	12669.0	33.64	12669.0	38.50	0	0	0	0
YELLOWFIN TUNA	1046.9	2.78	1046.9	3.18	0	0	0	0
BLUE MARLIN	2188.4	5.81	2188.4	6.65	0	0	0	0
TRIGGERFISH	13.0	0.03	0	0	13.0	0.51	0	0
FILEFISH	23.2	0.06	0	0	0	0	23.2	1.06
TRIPLETOOTH PUFFERS	28.0	0.07	0	0	28.0	1.08	0	0
ASSORTED BOTTOM FISH	126.8	0.34	0	0	126.8	4.92	0	0
SHALLOW BOTTOM FISH	2.4	0.01	0	0	2.4	0.09	0	0
SPINY LOBSTERS	417.4	1.11	0	0	0	0	417.4	19.13
SLIPPER LOBSTERS	46.4	0.12	0	0	0	0	46.4	2.13
CRABS	46.4	0.12	0	0	0	0	46.4	2.13
TOTAL ALL SPECIES:	37662.6	100.00	32902.7	87.36	2578.3	6.85	2181.6	5.79

Table IV.7.7

GUAM DAWR JUNE 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SHARKS	118.0	0.26	0	0	69.0	2.46	49.0	0.84
SQUIRRELFISH	65.7	0.14	0	0	47.2	1.68	18.5	0.32
GROUPER	380.8	0.83	0	0	317.6	11.31	63.2	1.08
JACKS	324.3	0.71	0	0	95.2	3.39	229.1	3.91
RAINBOW RUNNER	47.3	0.10	47.3	0.13	0	0	0	0
BIGEYE SCAD (AKULE)	1605.5	3.51	0	0	0	0	1605.5	27.37
DOLPHINFISH (MAHIMAHI)	1367.9	2.99	1367.9	3.69	0	0	0	0
SNAPPERS	285.0	0.62	10.4	0.03	165.2	5.88	109.4	1.86
UKU (JOBFISH)	220.8	0.48	0	0	220.8	7.86	0	0
EHU (PINK SNAPPER)	57.2	0.12	0	0	57.2	2.04	0	0
BLUE LINED SNAPPER	66.1	0.14	0	0	25.4	0.90	40.7	0.69
YELLOWTAIL KALIKALI	143.9	0.31	0	0	143.9	5.12	0	0
OPAKAPAKA (PINK SNAP)	21.7	0.05	0	0	21.7	0.77	0	0
KALIKALI (PINK SNAPPER)	17.7	0.04	0	0	17.7	0.63	0	0
GINDAI (FLOWER SNAPPER)	256.9	0.56	0	0	256.9	9.14	0	0
EMPERORS	820.4	1.79	0	0	440.3	15.68	380.0	6.48
GOATFISH	83.6	0.18	0	0	35.1	1.25	48.5	0.83
RUDDERFISH	338.8	0.74	0	0	0	0	338.8	5.77
WRASSE	65.1	0.14	0	0	65.1	2.32	0	0
PARROTFISH	1125.0	2.46	0	0	0	0	1125.0	19.17
SURGEONFISH AND TANGS	273.5	0.60	0	0	0	0	273.5	4.66
WAHOO	12585.1	27.48	12585.1	33.91	0	0	0	0
SKIPJACK TUNA	10257.9	22.40	10257.9	27.64	0	0	0	0
YELLOWFIN TUNA	4272.7	9.33	4272.7	11.51	0	0	0	0
BLUE MARLIN	8575.8	18.73	8575.8	23.10	0	0	0	0
TRIGGERFISH	56.2	0.12	0	0	56.2	2.00	0	0
TRIPLETOOTH PUFFERS	49.3	0.11	0	0	49.3	1.75	0	0
ASSORTED BOTTOM FISH	394.3	0.86	0	0	394.3	14.04	0	0
SHALLOW BOTTOM FISH	260.1	0.57	0	0	0	0	260.1	4.43
DEEP BOTTOM FISH	331.2	0.72	0	0	331.2	11.79	0	0
MOLLUSKS	924.0	2.02	0	0	0	0	924.0	15.75
SPINY LOBSTERS	378.3	0.83	0	0	0	0	378.3	6.45
CRABS	23.3	0.05	0	0	0	0	23.3	0.40
TOTAL ALL SPECIES:	45793.2	100.00	37117.2	81.05	2809.2	6.13	5866.9	12.81

Table IV.7.8

GUAM DAWR JULY 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SHARKS	191.8	0.79	0	0	0	0	191.8	6.62
SQUIRRELFISH	22.9	0.09	0	0	15.7	0.64	7.3	0.25
GROUPER	170.2	0.70	0	0	157.3	6.46	13.0	0.45
JACKS	123.1	0.51	0	0	107.0	4.40	16.1	0.56
RAINBOW RUNNER	2.0	0.01	2.0	0.01	0	0	0	0
DOLPHINFISH (MAHIMAHI)	135.5	0.56	135.5	0.71	0	0	0	0
SNAPPERS	46.4	0.19	0	0	0	0	46.4	1.60
EHU (PINK SNAPPER)	302.7	1.24	0	0	302.7	12.44	0	0
BLUE LINED SNAPPER	11.7	0.05	0	0	11.7	0.48	0	0
YELLOWTAIL KALIKALI	555.3	2.28	0	0	555.3	22.82	0	0
GINDAI (FLOWER SNAPPER)	101.8	0.42	0	0	101.8	4.18	0	0
SWEETLIPS	46.0	0.19	0	0	0	0	46.0	1.59
EMPERORS	413.5	1.70	0	0	128.2	5.27	285.3	9.84
GOATFISH	84.4	0.35	0	0	18.3	0.75	66.2	2.28
RUDDERFISH	475.6	1.96	0	0	0	0	475.6	16.41
BARRACUDA	550.9	2.27	434.3	2.29	116.6	4.79	0	0
WRASSE	20.1	0.08	0	0	18.3	0.75	1.8	0.06
PARROTFISH	782.5	3.22	0	0	0	0	782.5	26.99
SURGEONFISH AND TANGS	115.1	0.47	0	0	0	0	115.1	3.97
RABBITFISH	55.2	0.23	0	0	0	0	55.2	1.90
WAHOO	1465.3	6.03	1465.3	7.72	0	0	0	0
KAWAKAWA	9.0	0.04	9.0	0.05	0	0	0	0
DOGTOOTH TUNA	21.4	0.09	21.4	0.11	0	0	0	0
SKIPJACK TUNA	3977.2	16.35	3977.2	20.95	0	0	0	0
YELLOWFIN TUNA	2463.6	10.13	2463.6	12.97	0	0	0	0
BLUE MARLIN	10322.4	42.44	10322.4	54.36	0	0	0	0
ASSORTED BOTTOM FISH	13.0	0.05	0	0	13.0	0.54	0	0
SHALLOW BOTTOM FISH	521.9	2.15	0	0	521.9	21.45	0	0
DEEP BOTTOM FISH	365.3	1.50	0	0	365.3	15.02	0	0
ASSORTED TROLLING FISH	156.8	0.64	156.8	0.83	0	0	0	0
ASSORTED REEF FISH	767.1	3.15	0	0	0	0	767.1	26.46
SPINY LOBSTERS	18.8	0.08	0	0	0	0	18.8	0.65
CRABS	10.7	0.04	0	0	0	0	10.7	0.37
TOTAL ALL SPECIES:	24319.5	100.00	18987.5	78.08	2433.0	10.00	2899.0	11.92

Table IV.7.9

GUAM DAWR AUGUST 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
GROUPER	87.8	0.22	0	0	87.8	3.28	0	0
JACKS	710.4	1.82	0	0	0	0	710.4	4.49
RAINBOW RUNNER	7.7	0.02	7.7	0.04	0	0	0	0
BIGEYE SCAD (AKULE)	14491.8	37.10	0	0	0	0	14491.8	91.59
DOLPHINFISH (MAHIMAHI)	19.3	0.05	19.3	0.09	0	0	0	0
SNAPPERS	19.3	0.05	0	0	19.3	0.72	0	0
UKU (JOBFISH)	336.7	0.86	0	0	336.7	12.59	0	0
EHU (PINK SNAPPER)	97.0	0.25	0	0	97.0	3.62	0	0
ONAGA (RED SNAPPER)	98.8	0.25	0	0	98.8	3.69	0	0
YELLOWTAIL KALIKALI	18.0	0.05	0	0	18.0	0.67	0	0
OPAKAPAKA (PINK SNAP)	14.6	0.04	0	0	14.6	0.55	0	0
YELLOWEYE OPAKAPAKA	143.6	0.37	0	0	143.6	5.37	0	0
GINDAI (FLOWER SNAPPER)	152.6	0.39	0	0	152.6	5.71	0	0
EMPERORS	321.8	0.82	0	0	321.8	12.03	0	0
GOATFISH	4.5	0.01	0	0	4.5	0.17	0	0
BARRACUDA	71.0	0.18	0	0	0	0	71.0	0.45
PARROTFISH	87.5	0.22	0	0	0	0	87.5	0.55
SURGEONFISH AND TANGS	105.0	0.27	0	0	0	0	105.0	0.66
WAHOO	406.0	1.04	406.0	1.97	0	0	0	0
DOGTOOTH TUNA	213.1	0.55	0	0	0	0	213.1	1.35
SKIPJACK TUNA	6421.9	16.44	6421.9	31.23	0	0	0	0
YELLOWFIN TUNA	9433.8	24.15	9433.8	45.88	0	0	0	0
BLUE MARLIN	4272.3	10.94	4272.3	20.78	0	0	0	0
TRIGGERFISH	24.7	0.06	0	0	24.7	0.92	0	0
ASSORTED BOTTOM FISH	502.8	1.29	0	0	502.8	18.80	0	0
DEEP BOTTOM FISH	224.4	0.57	0	0	224.4	8.39	0	0
ASSORTED REEF FISH	628.4	1.61	0	0	628.4	23.49	0	0
SPINY LOBSTERS	143.5	0.37	0	0	0	0	143.5	0.91
TOTAL ALL SPECIES:	39058.2	100.00	20561.0	52.64	2674.9	6.85	15822.3	40.51

Table IV.7.10

GUAM DAWR SEPTEMBER 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SQUIRRELFISH	6.8	0.03	0	0	6.8	0.28	0	0
GROUPER	84.3	0.31	0	0	84.3	3.50	0	0
JACKS	680.2	2.54	0	0	680.2	28.21	0	0
RAINBOW RUNNER	40.8	0.15	40.8	0.17	0	0	0	0
DOLPHINFISH (MAHIMAHI)	36.3	0.14	36.3	0.15	0	0	0	0
UKU (JOBFISH)	113.4	0.42	0	0	113.4	4.70	0	0
EHU (PINK SNAPPER)	176.7	0.66	0	0	176.7	7.33	0	0
ONAGA (RED SNAPPER)	153.5	0.57	0	0	153.5	6.37	0	0
BLUE LINED SNAPPER	6.6	0.02	0	0	6.6	0.27	0	0
YELLOWTAIL KALIKALI	73.2	0.27	0	0	73.2	3.04	0	0
GINDAI (FLOWER SNAPPER)	158.0	0.59	0	0	158.0	6.55	0	0
EMPERORS	105.8	0.39	0	0	105.8	4.39	0	0
GOATFISH	2.6	0.01	0	0	2.6	0.11	0	0
RUDDERFISH	23.7	0.09	0	0	0	0	23.7	25.25
PARROTFISH	44.5	0.17	0	0	0	0	44.5	47.48
SURGEONFISH AND TANGS	16.5	0.06	0	0	0	0	16.5	17.64
WAHOO	766.5	2.86	766.5	3.15	0	0	0	0
DOGTOOTH TUNA	93.0	0.35	93.0	0.38	0	0	0	0
SKIPJACK TUNA	9553.7	35.63	9553.7	39.30	0	0	0	0
YELLOWFIN TUNA	5095.4	19.00	5095.4	20.96	0	0	0	0
BLUE MARLIN	8723.7	32.53	8723.7	35.89	0	0	0	0
FLOUNDER	9.0	0.03	0	0	0	0	9.0	9.63
TRIGGERFISH	18.9	0.07	0	0	18.9	0.78	0	0
ASSORTED BOTTOM FISH	760.5	2.84	0	0	760.5	31.54	0	0
DEEP BOTTOM FISH	70.9	0.26	0	0	70.9	2.94	0	0
TOTAL ALL SPECIES:	26814.4	100.00	24309.3	90.66	2411.3	8.99	93.7	0.35

Table IV.7.11

GUAM DAWR OCTOBER 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
SHARKS	644.9	4.13	644.9	4.83	0	0	0	0
LIZARDFISH	4.8	0.03	0	0	4.8	0.40	0	0
NEEDLEFISH	29.9	0.19	0	0	0	0	29.9	2.84
SQUIRRELFISH	32.2	0.21	0	0	32.2	2.65	0	0
GROUPER	168.2	1.08	11.2	0.08	122.2	10.09	34.8	3.32
JACKS	42.9	0.27	0	0	26.8	2.21	16.1	1.54
DOLPHINFISH (MAHIMAHI)	737.5	4.73	737.5	5.53	0	0	0	0
SNAPPERS	69.4	0.44	12.9	0.10	24.7	2.04	31.9	3.03
LEHI (SILVERMOUTH)	67.9	0.43	0	0	67.9	5.60	0	0
BLUE LINED SNAPPER	8.0	0.05	0	0	8.0	0.66	0	0
YELLOWTAIL KALIKALI	45.7	0.29	0	0	45.7	3.78	0	0
YELLOWEYE OPAKAPAKA	12.5	0.08	0	0	12.5	1.03	0	0
GINDAI (FLOWER SNAPPER)	17.0	0.11	0	0	17.0	1.40	0	0
EMPERORS	334.7	2.14	0	0	334.7	27.64	0	0
GOATFISH	13.1	0.08	0	0	7.1	0.59	6.0	0.57
SWEEPERS	8.3	0.05	0	0	6.0	0.50	2.2	0.21
RUDDERFISH	155.3	0.99	0	0	0	0	155.3	14.78
HAWKFISH	0.9	0.01	0	0	0.9	0.07	0	0
BARRACUDA	42.1	0.27	42.1	0.32	0	0	0	0
WRASSE	219.4	1.41	0	0	6.4	0.53	213.0	20.28
PARROTFISH	409.9	2.63	0	0	0	0	409.9	39.02
SURGEONFISH AND TANGS	151.3	0.97	0	0	0	0	151.3	14.40
WAHOO	1273.0	8.16	1273.0	9.54	0	0	0	0
DOGTOOTH TUNA	2303.5	14.76	2133.6	15.99	169.9	14.03	0	0
SKIPJACK TUNA	2156.3	13.82	2156.3	16.16	0	0	0	0
YELLOWFIN TUNA	1847.9	11.84	1847.9	13.85	0	0	0	0
BLUE MARLIN	4486.5	28.75	4486.5	33.62	0	0	0	0
TRIGGERFISH	8.2	0.05	0	0	8.2	0.68	0	0
TRIPLETOOTH PUFFERS	16.1	0.10	0	0	16.1	1.33	0	0
ASSORTED BOTTOM FISH	44.7	0.29	0	0	44.7	3.69	0	0
SHALLOW BOTTOM FISH	130.4	0.84	0	0	130.4	10.77	0	0
DEEP BOTTOM FISH	125.0	0.80	0	0	125.0	10.32	0	0
TOTAL ALL SPECIES:	15607.5	100.00	13345.9	85.51	1211.2	7.76	1050.3	6.73

Table IV.7.12

GUAM DAWR NOVEMBER 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
NEEDLEFISH	49.2	0.18	49.2	0.19	0	0	0	0
SQUIRRELFISH	95.6	0.36	0	0	16.8	2.85	78.8	8.93
GROUPER	150.8	0.56	0	0	58.4	9.90	92.4	10.46
JACKS	151.2	0.56	0	0	98.3	16.65	52.9	5.99
BIGEYE SCAD (AKULE)	43.7	0.16	0	0	43.7	7.40	0	0
DOLPHINFISH (MAHIMAHI)	2882.9	10.77	2882.9	11.40	0	0	0	0
UKU (JOBFISH)	21.8	0.08	0	0	21.8	3.70	0	0
EMPERORS	255.1	0.95	0	0	255.1	43.20	0	0
GOATFISH	48.9	0.18	0	0	2.2	0.37	46.7	5.29
ANGELFISH	5.9	0.02	0	0	0	0	5.9	0.67
BARRACUDA	377.0	1.41	344.2	1.36	32.8	5.55	0	0
WRASSE	11.9	0.04	0	0	6.6	1.11	5.4	0.61
PARROTFISH	289.1	1.08	0	0	0	0	289.1	32.76
SURGEONFISH AND TANGS	193.9	0.72	0	0	0	0	193.9	21.97
WAHOO	4020.1	15.02	4020.1	15.89	0	0	0	0
DOGTOOTH TUNA	43.7	0.16	0	0	43.7	7.40	0	0
SKIPJACK TUNA	6411.3	23.95	6411.3	25.35	0	0	0	0
YELLOWFIN TUNA	3516.1	13.14	3516.1	13.90	0	0	0	0
BLUE MARLIN	8071.0	30.15	8071.0	31.91	0	0	0	0
TRIGGERFISH	11.1	0.04	0	0	11.1	1.89	0	0
MOLLUSKS	117.5	0.44	0	0	0	0	117.5	13.32
TOTAL ALL SPECIES:	26767.9	100.00	25294.8	94.50	590.5	2.21	882.6	3.30

Table IV.7.13

GUAM DAWR DECEMBER 1986
OFFSHORE CREEL SURVEY SPECIES COMPOSITION

COMMON NAME	TOTAL ALL GEARS	% ALL GEARS	TROLLING	% THIS GEAR	BOTTOM	% THIS GEAR	OTHER	% THIS GEAR
RAINBOW RUNNER	1064.6	3.00	1064.6	3.10	0	0	0	0
BIGEYE SCAD (AKULE)	4.4	0.01	0	0	0	0	4.4	1.96
DOLPHINFISH (MAHIMAHI)	1582.4	4.47	1582.4	4.61	0	0	0	0
BARRACUDA	1130.2	3.19	1108.2	3.23	0	0	22.0	9.80
WAHOO	14144.7	39.92	14144.7	41.24	0	0	0	0
DOGTOOTH TUNA	145.2	0.41	145.2	0.42	0	0	0	0
SKIPJACK TUNA	7549.0	21.31	7549.0	22.01	0	0	0	0
YELLOWFIN TUNA	8705.6	24.57	8705.6	25.38	0	0	0	0
ASSORTED BOTTOM FISH	908.4	2.56	0	0	908.4	100.00	0	0
ASSORTED REEF FISH	198.4	0.56	0	0	0	0	198.4	88.24
TOTAL ALL SPECIES:	35432.9	100.00	34299.7	96.80	908.4	2.56	224.9	0.63

Table IV.8.1

1985 MARIANAS FISHING DERBY
SUMMARY REPORTS

PREPARED BY
GUAM DIVISION OF AQUATIC & WILDLIFE RESOURCES

DERBY TOTALS

	DAY 1 AUG 2	DAY 2 AUG 3	DAY 3 AUG 4	DERBY TOTALS
NUMBER OF BOATS	42.0	41.0	39.0	65.0
NUMBER OF BOAT TRIPS	45.0	42.0	42.0	129.0
NUMBER OF FISHERMEN	129.0	125.0	139.0	393.0
AVE. MEN PER BOAT	2.9	3.0	3.3	3.0
NUMBER OF LINES FISHED	180.0	170.0	169.0	519.0
AVE. LINES PER BOAT	4.0	4.0	4.0	4.0
BOAT HOURS	447.0	459.1	386.9	1293.0
AVE. BOAT TRIP LENGTH	9.9	10.9	9.2	10.0
FISHERMAN HOURS	1285.1	1376.2	1335.2	3996.5
LINE HOURS	1776.2	1861.3	1581.5	5219.0
NUMBER OF FISH LANDED	188.0	114.0	125.0	427.0
POUNDS LANDED	3742.1	2862.0	3019.4	9634.5
AVE CATCH PER BOAT TRIP	83.2	68.4	71.9	74.7
AVE CATCH PER BOAT HOUR	8.4	6.3	7.8	7.5
AVE CATCH PER MAN HOUR	2.9	2.1	2.3	2.4
AVE CATCH PER LINE HOUR	2.1	1.5	1.9	1.8

SPECIES TOTALS

	DAY 1 - AUG 2			DAY 2 - AUG 3			DAY 3 - AUG 4			TOTAL		
SPECIES	NUMBER CAUGHT	TOTAL WT-LBS	AVE WT.	NUMBER CAUGHT	TOTAL WT-LBS	AVE WT.	NUMBER CAUGHT	TOTAL WT-LBS	AVE WT.	NUMBER CAUGHT	TOTAL WT-LBS	AVE WT.
MARLIN	5	1000.2	200.0	5	944.7	188.9	7	1714.1	244.9	17	3659.0	215.2
YELLOWFIN TUNA	68	1298.5	19.1	37	717.4	19.4	32	317.0	9.9	137	2332.9	17.0
WAHOO	35	759.7	21.7	40	809.7	20.2	23	462.3	20.1	98	2031.8	20.7
MAHIMAHI	11	86.4	7.9	0	0	0	3	82.5	27.5	14	168.9	12.1
SKIPJACK TUNA	68	580.7	8.5	29	338.2	11.7	32	276.2	8.6	129	1195.1	9.3
RAINBOW RUNNER	0	0	0	0	0	0	20	77.2	3.9	20	77.2	3.9
BARRACUDA	1	16.5	16.5	2	40.6	20.3	8	90.2	11.3	11	147.3	13.4
OTHER	0	0	0	1	11.5	11.5	0	0	0	1	11.5	11.5
TOTALS	188	3742.1	19.9	114	2862.0	25.1	125	3019.4	24.2	427	9623.5	22.5

Table IV.8.2

1986 MARIANAS FISHING DERBY
SUMMARY REPORTS

PREPARED BY
GUAM DIVISION OF AQUATIC & WILDLIFE RESOURCES

DERBY TOTALS

	DAY 1 JULY 18	DAY 2 JULY 19	DAY 3 JULY 20	DERBY TOTALS
NUMBER OF BOATS	71.0	74.0	70.0	93.0
NUMBER OF BOAT TRIPS	86.0	89.0	73.0	248.0
NUMBER OF FISHERMEN	236.0	270.0	222.0	728.0
AVE. MEN PER BOAT	2.7	3.0	3.0	2.9
NUMBER OF LINES FISHED	368.0	380.0	300.0	1048.0
AVE. LINES PER BOAT	4.3	4.3	4.1	4.2
BOAT HOURS	711.2	664.0	692.7	2067.8
AVE. BOAT TRIP LENGTH	8.3	7.5	9.5	8.3
FISHERMAN HOURS	1970.3	1966.9	2103.0	6040.2
LINE HOURS	3117.3	2902.6	2872.1	8891.9
NUMBER OF FISH LANDED	94.0	93.0	50.0	237.0
POUNDS LANDED	3054.8	3684.6	1624.8	8366.4
AVE CATCH PER BOAT TRIP	35.5	41.4	22.3	33.7
AVE CATCH PER BOAT HOUR	4.3	5.5	2.3	4.0
AVE CATCH PER MAN HOUR	1.6	1.9	.8	1.4
AVE CATCH PER LINE HOUR	1.0	1.3	.6	.9

SPECIES TOTALS

	DAY 1 - JULY 18			DAY 2 - JULY 19			DAY 3 - JULY 20			TOTAL		
SPECIES	NUMBER CAUGHT	TOTAL WT-LBS	AVE WT.	NUMBER CAUGHT	TOTAL WT-LBS	AVE WT.	NUMBER CAUGHT	TOTAL WT-LBS	AVE WT.	NUMBER CAUGHT	TOTAL WT-LBS	AVE WT.
MARLIN	18	2259.8	125.5	20	2828.6	141.4	9	1214.6	135.0	47	6303.1	134.1
YELLOWFIN TUNA	28	315.6	11.3	25	393.9	15.8	18	185.5	10.3	71	895.0	12.6
WAHOO	6	105.2	17.5	7	137.5	19.6	3	58.6	19.5	16	301.3	18.8
MAHIMAHI	2	53.1	26.6	2	62.9	31.4	3	19.5	6.5	7	135.5	19.4
SKIPJACK TUNA	15	154.9	10.3	15	125.7	8.4	6	58.3	9.7	36	339.0	9.4
RAINBOW RUNNER	0	0	0	0	0	0	1	2.0	2.0	1	2.0	2.0
BARRACUDA	9	84.3	9.4	4	47.5	11.9	7	69.3	9.9	20	201.2	10.1
OTHER	16	81.8	5.1	20	88.4	4.4	3	17.0	5.7	39	187.2	4.8
TOTALS	94	3054.8	32.5	93	3684.6	39.6	50	1624.8	32.5	237	8364.2	53.3

Table IV.9.1

GUAM DAWR ANNUAL 1985
DAY INSHORE CREEL SURVEY
EXPANSION SUMMARY

METHODS	PRSN CNT	CV	GEAR CNT	CV	TRIP CNT	CV	PRNS HRS	CV	GEAR HRS	CV	CATCH	CV	CPUE
HOOK & LINE	27064.1	9	27192.9	9	14245.7	17	83284.2	8	83780.0	8	20970.5	4	.25
CAST NET	7418.7	9	6081.3	9	5428.3	9	21237.8	9	17214.1	9	18555.3	9	1.08
GILL NET	10357.0	8	5254.3	8	4252.7	8	37799.3	8	19081.9	8	54998.9	8	2.88
SURROUND NET	5250.8	16	675.2	16	675.2	16	22131.1	16	2832.9	16	33665.9	16	11.88
SPEAR-SNORKEL	2719.8	11	2577.5	11	1336.1	11	5322.6	11	5049.6	11	11844.2	11	2.35
SPEAR-SCUBA	89.3	59	89.3	59	44.6	59	102.2	61	102.2	61	153.6	61	1.50
HOOK&GAFF	1445.8	15	1737.1	15	752.9	15	3909.7	16	4681.8	16	3310.8	16	.71
DRAG NET	70.0	51	25.6	49	25.6	49	220.1	52	93.6	56	173.7	56	1.86
OTHER	5734.6	20	5734.6	20	2449.6	20	12373.6	20	12373.6	20	47005.5	20	3.80
TOTALS	60150.1	6	49367.9	6	29463.0	6	196182.5	6	154020.6	6	190678.5	6	1.42

Table IV.9.2

GUAM DAWR ANNUAL 1985
NIGHT INSHORE CREEL SURVEY
EXPANSION SUMMARY

METHODS	PRSN CNT	CV	GEAR CNT	CV	TRIP CNT	CV	PRNS HRS	CV	GEAR HRS	CV	CATCH	CV	CPUE
HOOK & LINE	6007.4	7	6045.2	7	2926.4	15	17038.3	7	17176.9	7	5693.6	3	.33
CAST NET	77.9	40	71.4	40	71.4	40	194.7	40	178.4	40	196.7	40	1.10
GILL NET	1761.6	14	761.0	14	622.0	14	5492.0	14	2358.0	14	6222.4	14	2.64
SURROUND NET	0	0	0	0	0	0	0	0	0	0	0	0	0
SPEAR-SNORKEL	2935.7	11	2873.8	11	1182.1	12	6848.1	11	6708.7	11	23620.9	11	3.52
SPEAR-SCUBA	191.1	39	199.9	38	78.3	39	502.5	39	524.4	38	3330.6	38	6.35
HOOK&GAFF	0	0	0	0	0	0	0	0	0	0	0	0	0
DRAG NET	644.2	28	98.3	28	98.3	28	1893.9	28	288.6	28	1250.7	28	4.33
OTHER	1061.8	19	1061.8	19	378.6	19	2143.6	19	2143.6	19	1870.5	19	.87
TOTALS	12679.6	5	11111.3	5	5265.2	5	32551.7	5	28322.4	5	42185.4	5	2.35

Table IV.10.1

GUAM DAWR ANNUAL 1985
DAY INSHORE CREEL SURVEY
SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BROWN ALGAE	5732.6	3.01	HERRING	761.7	0.40
MORAY EELS	756.3	0.40	MILKFISH	123.0	0.06
LIZARDFISH	29.5	0.02	NEEDLEFISH	329.2	0.17
HALFBEAK	2183.1	1.14	SQUIRRELFISH	2519.4	1.32
TRUMPETFISH	12.3	0.01	CORNETFISH	240.9	0.13
SCORPIONFISH	1069.7	0.56	GROUPER	190.5	0.10
CARDINALFISH	44.3	0.02	JACKS	9351.0	4.90
BIGEYE SCAD (AKULE)	1543.2	0.81	PONYFISHES	339.6	0.18
SNAPPERS	8762.3	4.60	FUSILIER	233.9	0.12
BREAM	279.5	0.15	MOHARRA	1575.1	0.83
SWEETLIPS	1143.9	0.60	EMPERORS	20681.1	10.85
GOATFISH	11844.7	6.21	RUDDERFISH	1916.4	1.01
BUTTERFLYFISH	107.5	0.06	DAMSELFISHES	484.1	0.25
MULLET	6042.6	3.17	BARRACUDA	103.7	0.05
WRASSE	3207.1	1.68	PARROTFISH	2280.1	1.20
SURGEONFISH AND TANGS	25686.4	13.47	RABBITFISH	24346.0	12.77
FLOUNDER	103.1	0.05	TRIGGERFISH	1681.5	0.88
SMOOTH PUFFERS	73.8	0.04	PORCUPINEFISH	566.0	0.30
ASSORTED REEF FISH	1000.7	0.52	MOLLUSKS	39827.5	20.89
OCTOPUS	9723.2	5.10	SPINY LOBSTERS	270.7	0.14
SLIPPER LOBSTERS	615.2	0.32	CRABS	2140.0	1.12
ECHINODERMS	755.9	0.40			
TOTAL ALL SPECIES:	190678.5	100.00			

Table IV.10.2

GUAM DAWR ANNUAL 1985
NIGHT INSHORE CREEL SURVEY
SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
CRABS	818.7	1.94	BONEFISH	2.1	0.01
MORAY EELS	292.4	0.69	CONGER EELS	101.4	0.24
HALFBEAK	2.4	0.01	SQUIRRELFISH	1609.2	3.81
CORNETFISH	75.2	0.18	SCORPIONFISH	113.5	0.27
GROUPER	567.8	1.35	BIGEYES	559.7	1.33
CARDINALFISH	30.7	0.07	JACKS	217.0	0.51
BIGEYE SCAD (AKULE)	706.4	1.67	PONYFISHES	4.6	0.01
SNAPPERS	1778.5	4.22	BLUE LINED SNAPPER	2.3	0.01
FUSILIER	40.8	0.10	BREAM	179.1	0.42
MOHARRA	134.5	0.32	EMPERORS	935.9	2.22
GOATFISH	2843.6	6.74	SWEEPERS	345.6	0.82
RUDDERFISH	456.3	1.08	BUTTERFLYFISH	33.9	0.08
DAMSELFISHES	75.3	0.18	MULLET	822.1	1.95
BARRACUDA	2387.1	5.66	WRASSE	1281.8	3.04
PARROTFISH	6420.4	15.22	BLENNIES	538.1	1.28
SURGEONFISH AND TANGS	11294.7	26.77	RABBITFISH	1607.5	3.81
FLOUNDER	28.7	0.07	TRIGGERFISH	78.4	0.19
FILEFISH	15.8	0.04	SMOOTH PUFFERS	43.3	0.10
PORCUPINEFISH	183.5	0.44	ASSORTED REEF FISH	1987.2	4.71
UNIDENTIFIED FISH	196.7	0.47	MOLLUSKS	369.1	0.88
CUTTLEFISH	107.1	0.25	SQUID	20.4	0.05
OCTOPUS	1814.3	4.30	SPINY LOBSTERS	779.7	1.85
SLIPPER LOBSTERS	86.7	0.21	LAND HERMIT CRABS	192.2	0.46
MARINE HERMIT CRABS	3.8	0.01			
TOTAL ALL SPECIES:	42185.4	100.00			

Table IV.10.3

GUAM DAWR ANNUAL 1985
COMBINED DAY AND NIGHT INSHORE CREEL SURVEY
SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
BROWN ALGAE	5732.6	2.46	HERRING	761.7	0.33
BONEFISH	2.1	0	MORAY EELS	1048.6	0.45
CONGER EELS	101.4	0.04	MILKFISH	123.0	0.05
LIZARDFISH	29.5	0.01	NEEDLEFISH	329.2	0.14
HALFBEAK	2185.5	0.94	SQUIRRELFISH	4128.6	1.77
TRUMPETFISH	12.3	0.01	CORNETFISH	316.2	0.14
SCORPIONFISH	1183.2	0.51	GROUPER	758.3	0.33
BIGEYES	559.7	0.24	CARDINALFISH	75.0	0.03
JACKS	9568.1	4.11	BIGEYE SCAD (AKULE)	2249.6	0.97
PONYFISHES	344.2	0.15	SNAPPERS	10507.1	4.51
SNAPPERS	33.6	0.01	BLUE LINED SNAPPER	2.3	0
FUSILIER	274.7	0.12	BREAM	458.6	0.20
MOHARRA	1709.6	0.73	SWEETLIPS	1143.9	0.49
EMPERORS	21617.0	9.28	GOATFISH	14688.3	6.31
SWEEPERS	345.6	0.15	RUDDERFISH	2372.7	1.02
BUTTERFLYFISH	141.4	0.06	DAMSELFISHES	559.4	0.24
MULLET	6864.7	2.95	BARRACUDA	2490.8	1.07
WRASSE	4488.9	1.93	PARROTFISH	8700.5	3.74
BLENNIES	538.1	0.23	SURGEONFISH AND TANGS	36981.0	15.88
RABBITFISH	25953.5	11.15	FLOUNDER	131.8	0.06
TRIGGERFISH	1759.9	0.76	FILEFISH	15.8	0.01
SMOOTH PUFFERS	117.2	0.05	PORCUPINEFISH	749.5	0.32
ASSORTED REEF FISH	2988.0	1.28	UNIDENTIFIED FISH	196.7	0.08
MOLLUSKS	40196.6	17.26	CUTTLEFISH	107.1	0.05
SQUID	20.4	0.01	OCTOPUS	11537.5	4.95
SPINY LOBSTERS	1050.4	0.45	SLIPPER LOBSTERS	701.9	0.30
LAND HERMIT CRABS	192.2	0.08	MARINE HERMIT CRABS	3.8	0
CRABS	2958.7	1.27	ECHINODERMS	755.9	0.32
TOTAL ALL SPECIES:	232863.9	100.00			

Table IV.10.4

GUAM DAWR ANNUAL 1985
COMBINED OFFSHORE AND INSHORE CREEL SURVEY
SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.
BROWN ALGAE	5732.6	0.57
RAYS	31.1	0
BONEFISH	2.1	0
CONGER EELS	101.4	0.01
LIZARDFISH	29.5	0
NEEDLEFISH	394.2	0.04
SQUIRRELFISH	7875.0	0.78
CORNETFISH	316.2	0.03
GROUPER	10490.0	1.04
CARDINALFISH	84.0	0.01
JACKS	18075.5	1.79
BIGEYE SCAD (AKULE)	38242.0	3.79
PONYFISHES	344.2	0.03
SNAPPERS	12324.1	1.22
SNAPPERS	1855.7	0.18
UKU (JOBFISH)	3632.7	0.36
ONAGA (RED SNAPPER)	2903.7	0.29
YELLOWTAIL KALIKALI	3229.9	0.32
YELLOWEYE OPAKAPAKA	1676.7	0.17
GINDAI (FLOWER SNAPPER)	2540.7	0.25
BREAM	458.6	0.05
MOHARRA	1709.6	0.17
EMPERORS	50100.9	4.96
SWEEPERS	368.7	0.04
BATFISH	54.7	0.01
ANGELFISH	7.1	0
HAWKFISH	10.9	0
BARRACUDA	12585.5	1.25
PARROTFISH	16718.5	1.66
SURGEONFISH AND TANGS	40251.1	3.99
RABBITFISH	26102.1	2.59
WAHOO	159299.7	15.79
DOGTOOTH TUNA	8487.9	0.84
YELLOWFIN TUNA	122706.5	12.16
BLUE MARLIN	77565.2	7.69
TRIGGERFISH	2901.8	0.29
TRIPLETOOTH PUFFERS	180.2	0.02
PORCUPINEFISH	749.5	0.07
SHALLOW BOTTOM FISH	6158.6	0.61
ASSORTED REEF FISH	11625.4	1.15
MOLLUSKS	43866.1	4.35
SQUID	24.0	0
CRUSTACEANS	5.5	0
SLIPPER LOBSTERS	723.2	0.07
MARINE HERMIT CRABS	3.8	0
ECHINODERMS	755.9	0.07
TOTAL ALL SPECIES:	1009158.0	100.00

COMMON NAME	TOTAL POUNDS	% SP. COMP.
SHARKS	2086.7	0.21
HERRING	761.7	0.08
MORAY EELS	1048.6	0.10
MILKFISH	123.0	0.01
FLYING FISH	3.0	0
HALFBEAK	2185.5	0.22
TRUMPETFISH	12.3	0
SCORPIONFISH	1254.6	0.12
BIGEYES	708.6	0.07
FALSE WHITING	11.2	0
RAINBOW RUNNER	1792.4	0.18
DOLPHINFISH (MAHIMAHI)	92407.4	9.16
POMFRET	12.6	0
SNAPPERS	33.6	0
LEHI (SILVERMOUTH)	1160.6	0.12
EHU (PINK SNAPPER)	1506.1	0.15
BLUE LINED SNAPPER	1155.1	0.11
OPAKAPAKA (PINK SNAP)	1219.0	0.12
KALIKALI (PINK SNAPPER)	183.3	0.02
FUSILIER	348.3	0.03
BREAM	3.1	0
SWEETLIPS	1282.5	0.13
GOATFISH	16285.6	1.61
RUDDERFISH	3263.2	0.32
BUTTERFLYFISH	143.7	0.01
DAMSELFISHES	559.4	0.06
MULLET	7466.1	0.74
WRASSE	5793.5	0.57
BLENNIES	538.1	0.05
MOORISH IDOLS	2.8	0
TUNAS	96.5	0.01
KAWAKAWA	1971.6	0.20
SKIPJACK TUNA	137096.9	13.59
SAILFISH	914.7	0.09
FLOUNDER	131.8	0.01
FILEFISH	15.8	0
SMOOTH PUFFERS	148.2	0.01
ASSORTED BOTTOM FISH	13167.9	1.30
DEEP BOTTOM FISH	1687.2	0.17
UNIDENTIFIED FISH	196.7	0.02
CUTTLEFISH	107.1	0.01
OCTOPUS	11560.7	1.15
SPINY LOBSTERS	2175.4	0.22
LAND HERMIT CRABS	192.2	0.02
CRABS	3041.3	0.30

Table IV.11.1

GUAM DAWR ANNUAL 1986
DAY INSHORE CREEL SURVEY
EXPANSION SUMMARY

METHODS	PRSN CNT	CV	GEAR CNT	CV	TRIP CNT	CV	PRNS HRS	CV	GEAR HRS	CV	CATCH	CV	CPUE
HOOK & LINE	19296.3	7	19271.0	7	11389.1	12	68508.4	7	68351.8	7	35634.2	3	.52
CAST NET	6958.0	8	6140.5	8	5898.2	8	16157.3	8	14260.4	8	16548.1	8	1.16
GILL NET	8365.2	7	4139.4	7	3844.7	7	35738.0	7	17863.2	7	59002.1	7	3.30
SURROUND NET	2009.9	23	441.1	27	441.1	27	9313.2	23	1868.9	25	22174.0	25	11.86
SPEAR-SNORKEL	1551.6	14	1543.2	14	511.3	13	6619.1	13	6565.6	13	25247.1	13	3.85
SPEAR-SCUBA	0	0	0	0	0	0	0	0	0	0	0	0	0
HOOK&GAFF	889.1	36	1798.5	36	767.0	34	2242.3	42	4584.9	43	4853.3	43	1.06
DRAG NET	18.0	100	6.0	100	6.0	100	99.2	100	33.1	100	135.6	100	4.10
OTHER	1660.2	41	1660.2	41	1077.1	47	3545.0	44	3545.0	44	23884.7	44	6.74
TOTALS	40748.3	5	34999.9	5	24452.1	5	146915.9	5	121996.5	5	187479.2	5	1.87

Table IV.11.2

GUAM DAWR ANNUAL 1986
NIGHT INSHORE CREEL SURVEY
EXPANSION SUMMARY

METHODS	PRSN CNT	CV	GEAR CNT	CV	TRIP CNT	CV	PRNS HRS	CV	GEAR HRS	CV	CATCH	CV	CPUE
HOOK & LINE	5308.2	8	5704.6	8	2723.8	16	17866.1	8	19179.9	8	15767.7	4	.82
CAST NET	161.7	31	119.0	33	119.0	33	427.7	31	309.1	32	473.1	32	1.53
GILL NET	3623.5	10	1580.3	10	1580.3	10	11573.1	11	5021.4	11	13112.0	11	2.61
SURROUND NET	0	0	0	0	0	0	0	0	0	0	0	0	5.62
SPEAR-SNORKEL	2833.5	11	2782.2	11	982.3	11	7911.4	11	7766.0	11	13665.5	11	1.76
SPEAR-SCUBA	0	0	0	0	0	0	0	0	0	0	0	0	0
HOOK&GAFF	72.1	100	9.0	100	3.3	100	180.4	100	22.5	100	20.8	100	.92
DRAG NET	1951.2	21	273.5	21	273.5	21	4753.8	23	664.4	23	3041.1	23	4.58
OTHER	1029.7	19	1029.7	19	923.9	19	3537.0	20	3537.0	20	12118.7	20	3.43
TOTALS	14979.8	6	11498.2	6	7032.0	6	47103.4	6	34939.7	6	58198.9	6	1.78

Table IV.12.1

GUAM DAWR ANNUAL 1986
DAY INSHORE CREEL SURVEY
SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
SHARKS	8084.1	4.31	RAYS	187.2	0.10
HERRING	0.9	0	BONEFISH	23.4	0.01
LIZARDFISH	9.2	0	NEEDLEFISH	50.6	0.03
HALFBEAK	1324.8	0.71	SQUIRRELFISH	2884.9	1.54
CORNETFISH	477.9	0.25	SCORPIONFISH	28.1	0.01
GROUPER	4647.9	2.48	JACKS	6013.6	3.21
BIGEYE SCAD (AKULE)	548.6	0.29	PONYFISHES	34.6	0.02
SNAPPERS	6566.3	3.50	BREAM	467.6	0.25
MOHARRA	3270.0	1.74	SWEETLIPS	2506.5	1.34
EMPERORS	5409.3	2.89	GOATFISH	64084.5	34.18
SWEEPERS	1.4	0	RUDDERFISH	6211.4	3.31
BATFISH	37.4	0.02	BUTTERFLYFISH	8.9	0
DAMSELFISHES	38.8	0.02	HAWKFISH	15.2	0.01
MULLET	1351.4	0.72	BARRACUDA	47.1	0.03
WRASSE	627.7	0.33	PARROTFISH	2853.3	1.52
SURGEONFISH AND TANGS	21557.6	11.50	RABBITFISH	2936.2	1.57
FLOUNDER	336.2	0.18	TRIGGERFISH	15567.0	8.30
FILEFISH	138.4	0.07	UNIDENTIFIED FISH	135.6	0.07
MOLLUSKS	37.4	0.02	SQUID	73.9	0.04
OCTOPUS	4881.4	2.60	SPINY LOBSTERS	54.3	0.03
SLIPPER LOBSTERS	309.4	0.17	CRABS	935.0	0.50
ECHINODERMS	15609.1	8.33	GREEN ALGAE	7095.0	3.78
TOTAL ALL SPECIES:	187479.2	100.00			

Table 12.2

GUAM DAWR ANNUAL 1986
NIGHT INSHORE CREEL SURVEY
SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
SHARKS	6657.4	11.44	HERRING	17.8	0.03
MORAY EELS	567.6	0.98	MILKFISH	1292.4	2.22
LIZARDFISH	32.4	0.06	NEEDLEFISH	48.0	0.08
HALFBEAK	19.5	0.03	SQUIRRELFISH	8434.1	14.49
CORNETFISH	63.6	0.11	SCORPIONFISH	80.9	0.14
GROUPER	161.7	0.28	FLAGTAILS	0.4	0
BIGEYES	33.9	0.06	JACKS	1213.8	2.09
BIGEYE SCAD (AKULE)	200.1	0.34	PONYFISHES	703.4	1.21
SNAPPERS	1319.9	2.27	BREAM	628.6	1.08
MOHARRA	109.4	0.19	SWEETLIPS	258.4	0.44
EMPERORS	1988.7	3.42	GOATFISH	4370.7	7.51
FINGERFISH	366.2	0.63	SWEEPERS	133.1	0.23
DAMSELFISHES	33.3	0.06	MULLET	3152.2	5.42
BARRACUDA	253.0	0.43	WRASSE	855.8	1.47
PARROTFISH	2045.1	3.51	GOBIES	56.5	0.10
SURGEONFISH AND TANGS	7932.4	13.63	RABBITFISH	1703.6	2.93
FLOUNDER	32.4	0.06	TRIGGERFISH	682.9	1.17
SMOOTH PUFFERS	40.5	0.07	UNIDENTIFIED FISH	20.8	0.04
MOLLUSKS	1999.6	3.44	OCTOPUS	1448.4	2.49
SPINY LOBSTERS	704.6	1.21	SLIPPER LOBSTERS	58.7	0.10
CRABS	113.5	0.20	GREEN ALGAE	8363.4	14.37
TOTAL ALL SPECIES:	58198.9	100.00			

Table IV.12.3

GUAM DAWR ANNUAL 1986
COMBINED DAY AND NIGHT INSHORE CREEL SURVEY
SPECIES COMPOSITION

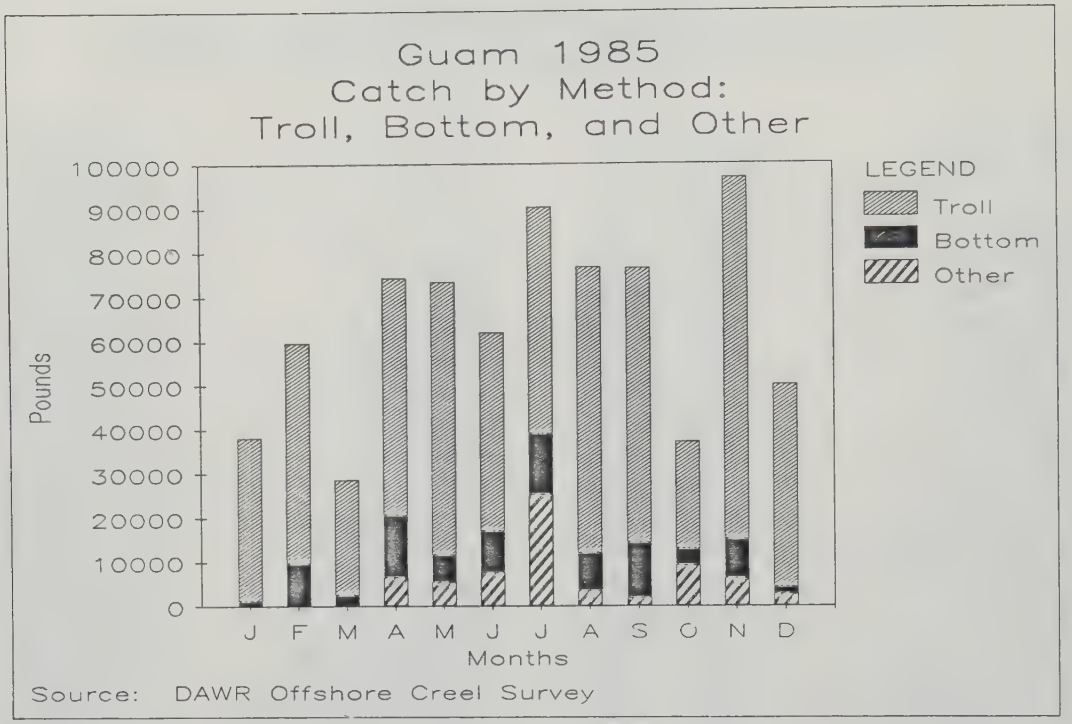
COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
SHARKS	14741.5	6.00	RAYS	187.2	0.08
HERRING	18.7	0.01	BONEFISH	23.4	0.01
MORAY EELS	567.6	0.23	MILKFISH	1292.4	0.53
LIZARDFISH	41.6	0.02	NEEDLEFISH	98.6	0.04
HALFBEAK	1344.3	0.55	SQUIRRELFISH	11319.0	4.61
CORNETFISH	541.6	0.22	SCORPIONFISH	109.0	0.04
GROUPER	4809.5	1.96	FLAGTAILS	0.4	0
BIGEYES	33.9	0.01	JACKS	7227.4	2.94
BIGEYE SCAD (AKULE)	748.6	0.30	PONYFISHES	738.0	0.30
SNAPPERS	7886.2	3.21	BREAM	1096.1	0.45
MOHARRA	3379.5	1.38	SWEETLIPS	2764.8	1.13
EMPERORS	7398.0	3.01	GOATFISH	68455.2	27.86
FINGERFISH	366.2	0.15	SWEEPERS	134.6	0.05
RUDDERFISH	6211.4	2.53	BATFISH	37.4	0.02
BUTTERFLYFISH	8.9	0	DAMSELFISHES	72.1	0.03
HAWKFISH	15.2	0.01	MULLET	4503.6	1.83
BARRACUDA	300.0	0.12	WRASSE	1483.5	0.60
PARROTFISH	4898.3	1.99	GOBIES	56.5	0.02
SURGEONFISH AND TANGS	29490.1	12.00	RABBITFISH	4639.9	1.89
FLOUNDER	368.6	0.15	TRIGGERFISH	16249.9	6.61
FILEFISH	138.4	0.06	SMOOTH PUFFERS	40.5	0.02
UNIDENTIFIED FISH	156.4	0.06	MOLLUSKS	2037.1	0.83
SQUID	73.9	0.03	OCTOPUS	6329.9	2.58
SPINY LOBSTERS	758.9	0.31	SLIPPER LOBSTERS	368.1	0.15
CRABS	1048.5	0.43	ECHINODERMS	15609.1	6.35
GREEN ALGAE	15458.4	6.29			
TOTAL ALL SPECIES:	245678.1	100.00			

Table IV.12.4

GUAM DAWR ANNUAL 1986
COMBINED OFFSHORE AND INSHORE CREEL SURVEY
SPECIES COMPOSITION

COMMON NAME	TOTAL POUNDS	% SP. COMP.	COMMON NAME	TOTAL POUNDS	% SP. COMP.
SHARKS	16229.5	2.48	RAYS	187.2	0.03
HERRING	18.7	0	BONEFISH	23.4	0
MORAY EELS	590.1	0.09	MILKFISH	1292.4	0.20
LIZARDFISH	48.3	0.01	NEEDLEFISH	215.4	0.03
HALFBEAK	1344.3	0.21	SQUIRRELFISH	13005.4	1.99
CORNETFISH	541.6	0.08	SCORPIONFISH	109.0	0.02
FLYING GURNARD	37.5	0.01	GROUPER	6512.2	1.00
FLAGTAILS	0.4	0	BIGEYES	33.9	0.01
CARDINALFISH	2.0	0	JACKS	14911.3	2.28
RAINBOW RUNNER	2054.1	0.31	BIGEYE SCAD (AKULE)	16134.2	2.47
DOLPHINFISH (MAHIMAHI)	85393.0	13.05	PONYFISHES	738.0	0.11
SNAPPERS	10164.0	1.55	LEHI (SILVERMOUTH)	609.2	0.09
UKU (JOBFISH)	1348.3	0.21	EHU (PINK SNAPPER)	694.1	0.11
ONAGA (RED SNAPPER)	309.6	0.05	BLUE LINED SNAPPER	294.1	0.04
YELLOWTAIL KALIKALI	1179.2	0.18	OPAKAPAKA (PINK SNAP)	704.1	0.11
YELLOWEYE OPAKAPAKA	1393.7	0.21	KALIKALI (PINK SNAPPER)	22.5	0
GINDAI (FLOWER SNAPPER)	842.4	0.13	BREAM	1096.1	0.17
MOHARRA	3379.5	0.52	SWEETLIPS	2803.8	0.43
EMPERORS	12759.5	1.95	GOATFISH	68741.7	10.51
FINGERFISH	366.2	0.06	SWEEPERS	146.6	0.02
RUDDERFISH	7320.7	1.12	BATFISH	37.4	0.01
BUTTERFLYFISH	8.9	0	ANGELFISH	3.8	0
DAMSELFISHES	72.1	0.01	HAWKFISH	16.5	0
MULLET	4503.6	0.69	BARRACUDA	6350.0	0.97
WRASSE	1932.9	0.30	PARROTFISH	8051.3	1.23
GOBIES	56.5	0.01	SURGEONFISH AND TANGS	31200.8	4.77
RABBITFISH	4685.2	0.72	TUNAS	39.9	0.01
WAHOO	68829.9	10.52	KAWAKAWA	9.0	0
DOGTOOTH TUNA	4159.3	0.64	SKIPJACK TUNA	73199.3	11.19
YELLOWFIN TUNA	47289.5	7.23	SAILFISH	1474.3	0.23
BLUE MARLIN	57681.6	8.82	FLOUNDER	374.5	0.06
TRIGGERFISH	16528.1	2.53	FILEFISH	154.7	0.02
TRIPLETOOTH PUFFERS	122.3	0.02	SMOOTH PUFFERS	40.5	0.01
ASSORTED BOTTOM FISH	3323.2	0.51	SHALLOW BOTTOM FISH	1218.4	0.19
DEEP BOTTOM FISH	1268.4	0.19	ASSORTED TROLLING FISH	1969.8	0.30
ASSORTED REEF FISH	1930.1	0.30	UNIDENTIFIED FISH	156.4	0.02
MOLLUSKS	3105.5	0.47	SQUID	73.9	0.01
OCTOPUS	6357.8	0.97	SPINY LOBSTERS	1764.8	0.27
SLIPPER LOBSTERS	403.7	0.06	CRABS	1120.8	0.17
ECHINODERMS	15609.1	2.39	GREEN ALGAE	15458.4	2.36
TOTAL ALL SPECIES:	654179.8	100.00			

Figure IV.6.1



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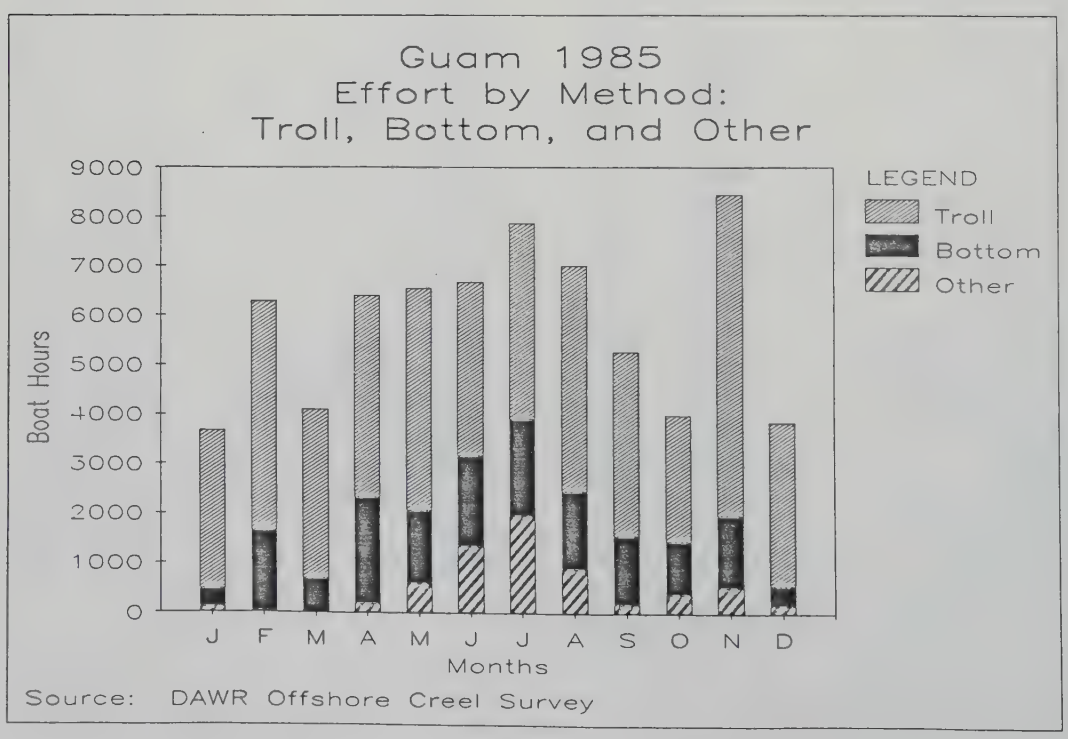
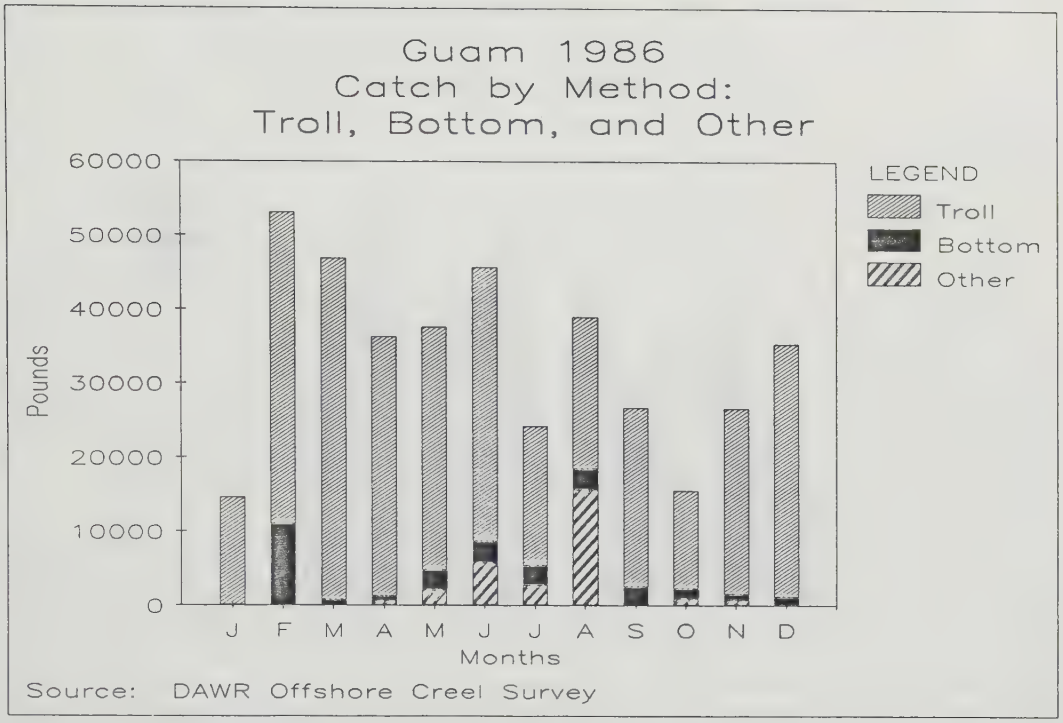


Figure IV.7.1



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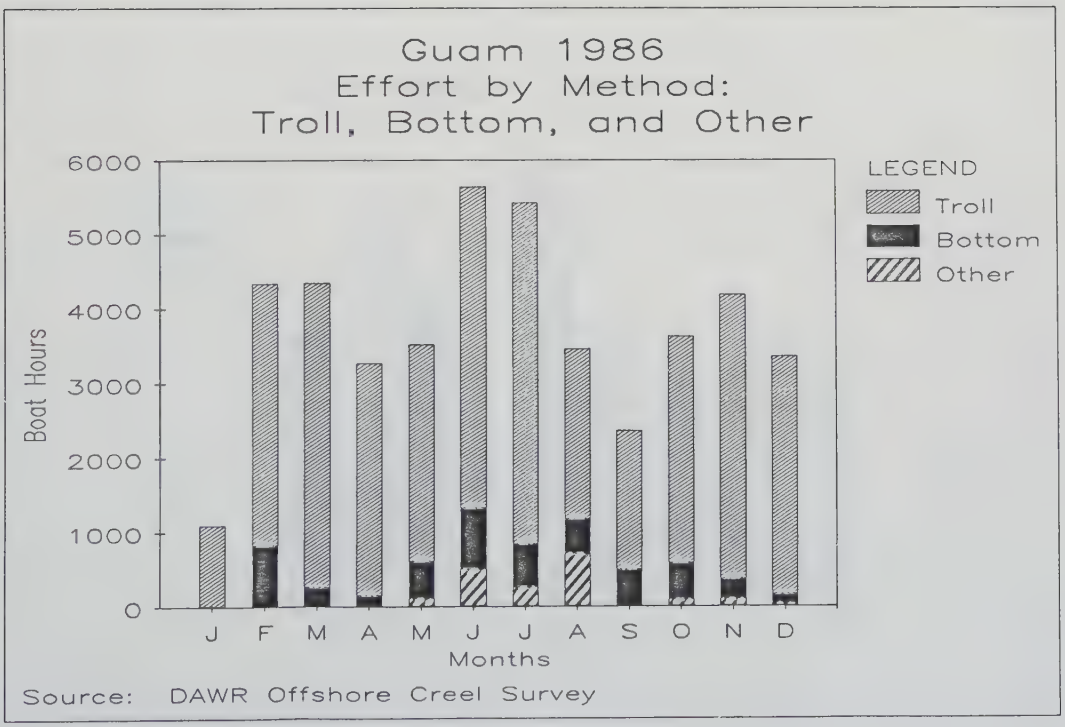


Figure IV.8.1

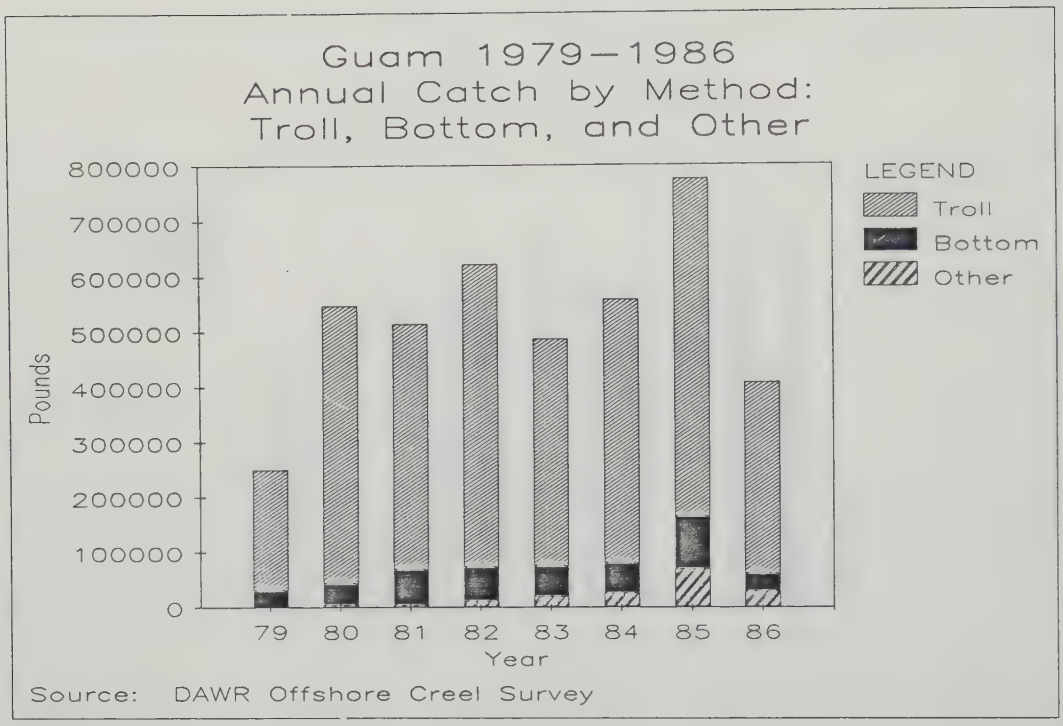
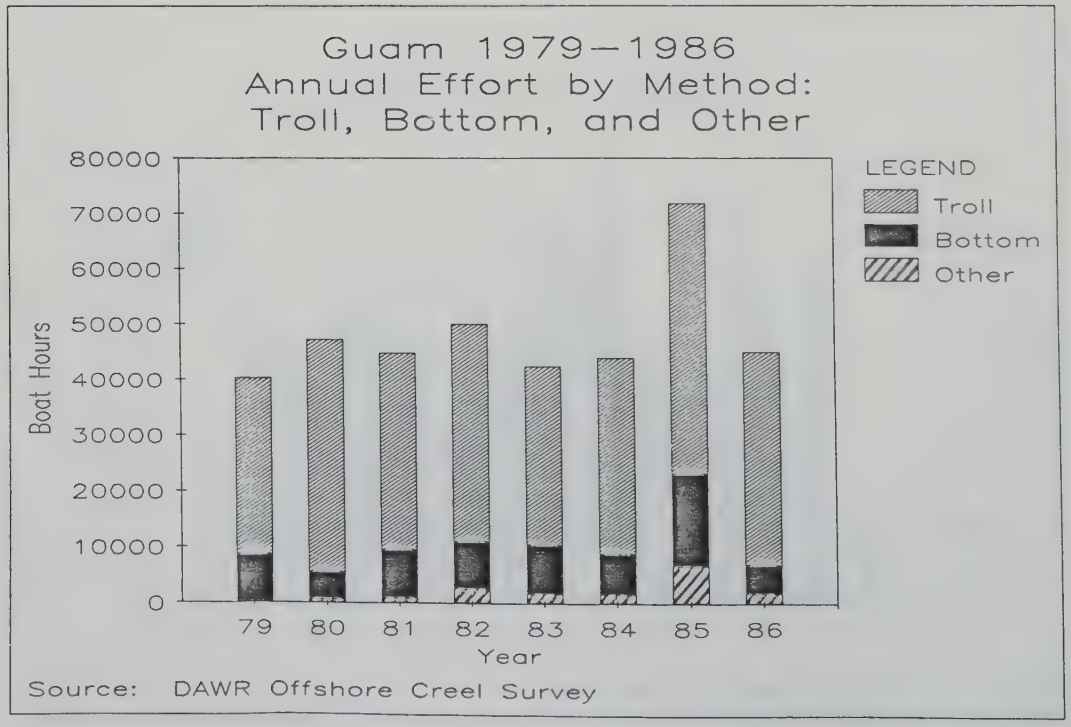


Figure IV.8.2



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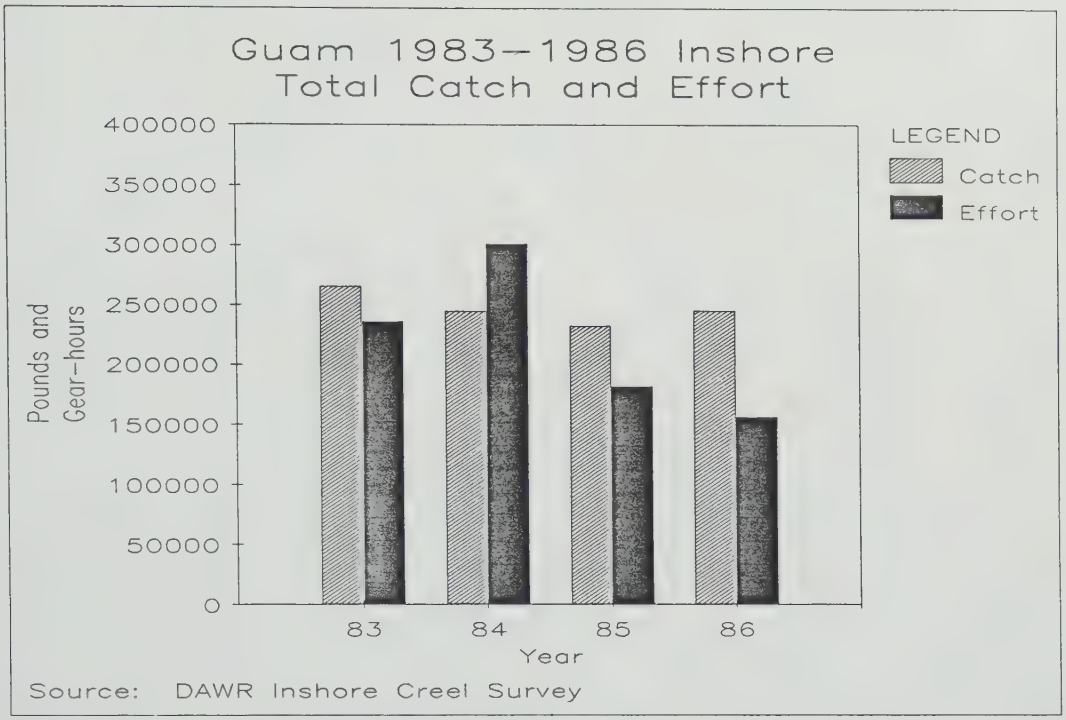
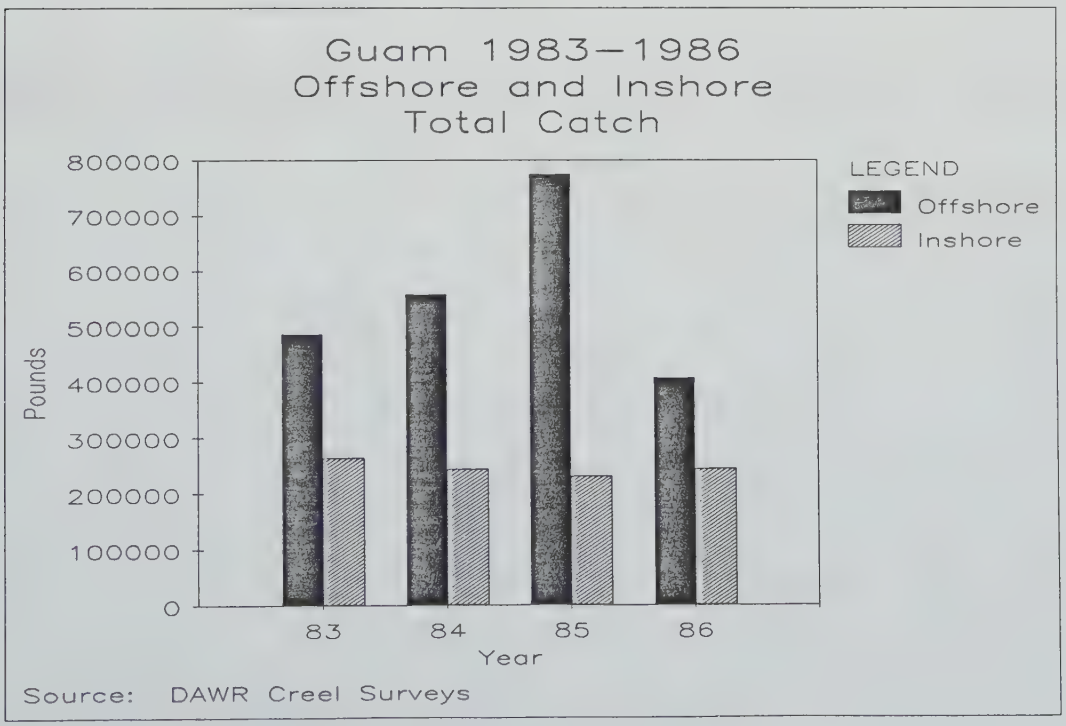


Figure IV.9.2



State of Hawaii

Fishery Statistics 1985 and 1986

STATE OF HAWAII FISHERY STATISTICS
1985 AND 1986

Compiled By

Division of Aquatic Resources

and the

Western Pacific Fishery Information Network

March 1988

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STATE OF HAWAII FISHERY STATISTICS, 1985 AND 1986

INTRODUCTION

The Hawaiian Archipelago stretches northwestward over 1,500 miles, from about lat. 19°N and long. 155°W to about lat. 28°N and long. 178°W. The seven main Hawaiian Islands--Hawaii, Maui, Lanai, Molokai, Oahu, Kauai, and Niihau--comprise over 99% of the total land area and have virtually all of the State's population of approximately 1 million residents. Over half of the State's commercial fish catch is landed on Oahu and about a third on Hawaii. The Department of Land and Natural Resources' Division of Aquatic Resources (DAR) has been collecting statistics on the commercial fisheries of Hawaii for over 40 years. Volume I of this series contained monthly and annual summary statistics and numerous graphs on commercial landings for calendar years 1979 through 1984. Volume III presents similar monthly and annual reports and graphs for 1985 and 1986 data and includes updates of seasonality and time-series graphs based on 1979-86 data.

The fisheries of the State of Hawaii are quite diverse and vary from hand harvesting algae to large vessel fisheries, such as longlining and lobster fishing. The major fisheries include tuna fishing using several methods, lobster trapping, hook-and-line bottom fishing for the grouper-snapper-jack complex, net fishing for such species as the bigeye scad, and trolling for such pelagic species as marlin, wahoo, and mahimahi. Of the approximately 15,000 vessels in Hawaii, about 80% are pleasure boats, 10% commercial fishing or charter boats, and the remainder are registered in other categories. The pleasure category includes boats used for recreational, subsistence, and part-time commercial fishing as well as boats not typically used for fishing such as sailboats. To fish commercially (i.e., sell catches or provide charter fishing services) in Hawaii requires purchase of a commercial marine fishing license. There are currently about 2,500 licensed commercial fishermen in the State. Substantial subsistence and recreational fisheries, which are primarily small boat, one-day fisheries, also exist. Data provided in this document are from licensed commercial fishermen only.

DATA COLLECTING SYSTEM

The major data collecting system used by DAR is based on a State law that requires commercial fishermen to report their catches on a monthly basis. Several different data collection forms are used because of the diversity of fishing methods and a desire to obtain specific information on some of these methods. The vast majority of commercial fishermen use the standard C-3 Fish Catch Report, which is submitted each month and requires

the following information for each trip taken:

Fisherman's name and commercial license number
Boat's name and its registration number
Date
Area or buoy fished
Type of gear used
Species caught
Number caught
Pounds caught
Pounds sold
Value of sales
Port of landing

The other forms used to report commercial catches are for specific fisheries including the C-4 Aku Catch Report for the pole-and-line or bait-boat fishery for skipjack tuna, the C-5 Flagline Catch Report for the longline fishery for tunas and other pelagic species, and the Pond Operator's Monthly Fish Report for operators of saltwater fish ponds. All of the forms request basic catch and revenue information by species, plus additional fishery-specific information such as effort and bait Commercial collectors of tropical marine fish are required to have an aquarium permit in addition to their commercial marine license and are required to report monthly on the C-6 Aquarium Fish Catch Report. However, the aquarium fish catch is not included in the statistics provided in this document.

Some of the advantages of a mandatory fisherman-reporting system are its relative efficiency, low cost, the potential for excellent percent coverage, and the amount of information that can be collected directly from the fishermen. The major disadvantage is that it places the responsibility for accurate data recording and timely data submission on the fishermen. Th assumption is made, therefore, that the data submitted by the fishermen are complete and accurate. The DAR recently made several improvements to the system and is continuing its effort to improve the quality of data and decrease the time delays in receiving and processing the data. No real measurement is available for what percent of the total commercial catch is actually reported to DAR, but estimates have ranged from about 50% to over 90%, depending on the species and fishery. Regardless of the actual percent, this data base is the most complete and accurate accounting of the commercial fishing activity in Hawaii that is available today.

DATA PROCESSING SYSTEM

When the various data reporting forms are received by DAR, they undergo a series of coding and editing procedures before being sent to the State's central data processing staff for keypunching. The use of central data processing staff instead

of in-house fisheries personnel to accomplish most of the computer processing activities is a major and significant difference between the processing system in Hawaii and those in American Samoa, Guam, and the Commonwealth of the Northern Mariana Islands. Forms that fail the initial editing by DAR staff are returned to the fishermen for correction and resubmission. Notices are sent to fishermen who fall more than a few months behind in the submission of their reports. Once the data are keypunched, computer generated reports are used by DAR staff to verify and correct errors in the data base. When the data base is considered to be reasonably complete and error free, it is ready for production of a variety of summary catch reports.

Since this system is based on submission of data from fishermen, late reporting has always been a problem. The DAR has tried to include as much information as possible in its published monthly and annual reports. Before about 1982, statistics from fishermen's reports received after the generation of the computerized monthly summary reports were hand tallied and added to the final version of the reports before they were published. However, because of processing restrictions or complications, the original data bases were not updated. Since 1982, additional editing and data correction procedures have been implemented, making data base updates possible. Because of peculiarities in the system, the totals in DAR's published annual reports are not equal to the sum of their monthly reports.

The summary reports and graphs presented in this document were generated by WPACFIN staff, based on published monthly DAR reports. The monthly summary statistics (pounds landed, pounds sold, and value) for each species were coded and entered into a data base by the Honolulu Laboratory's data processing staff. The WPACFIN staff used this data base to generate monthly and annual reports. In this document, the totals in the annual reports are equal to the sum of the monthly values and differ from DAR's published annual reports for 1985 and 1986 by 1.2% and 3.6%, respectively. Most of the differences are a result of late reporting by fishermen, but individual species differences are usually small. An exception to this rule is 1986, when the sum of the reported monthly landings of albacore, spiny lobster, and slipper lobster were 216%, 8%, and 4%, respectively, lower than the reported annual landings for these species.

DATA REPORTING SYSTEM

Recorded in DAR's monthly landings reports are more than 150 marine species and species groups, many of which are insignificant in the total catch. To help reduce the volume of this document and improve the usability of the tables, WPACFIN staff combined some of the less important species, reorganized

the order of presentation, created a new species coding system, and translated all records in the data base. The new coding system has 100 species and species groups based on flexible ecological and phylogenetic criteria. All of the commercially important pelagic and bottom fish species or unique species groups have individual codes and are reported separately. Marine pond catches are included in the species totals, but are less than 0.4% of the total landings for each year.

The monthly and annual reports included in this document contain the common name, weight in pounds, value rounded to the nearest dollar, and the average price per pound for each species. Also included are separate annual reports for commercial fishermen's landings that were not sold. Each monthly report contains a subtotal for the sum of all species for that month, and the December report contains the December subtotal and the annual total. Annual reports contain the total landings for each species and the total recorded landings for all species combined for the calendar year.

Four graphs of monthly landings are presented for both 198 and 1986, and 26 trend and seasonality graphs, based on 1979-86 data, are also provided. The following species, species groups and abbreviations are used in the tables and graphs of Hawaii's fishery statistics:

I. Pelagic Management Unit Species (PMUS)

Dolphin (mahimahi)
Wahoo
Blue marlin
Black marlin
Striped marlin
Shortbill spearfish
Sailfish
Swordfish
Sharks

II. Bottomfish Management Unit Species (BMUS)

Deep water jacks (unclassified)
Amberjack
Pig-lipped ulua (jack)
White ulua
Giant sea bass
Bluelined snapper
Ehu (red snapper)
Gindai (flower snapper)
Kalikali (pink snapper)
Lehi (silverjaw snapper)
Onaga (red or long tailed snapper)
Opakapaka (pink snapper)
Uku (gray snapper)

III. Billfish

Billfish (unclassified)
Blue marlin
Black marlin
Striped marlin
Shortbill spearfish
Sailfish
Swordfish

IV. Tunas

Tunas (unclassified)
Skipjack tuna
Yellowfin tuna
Albacore
Bigeye tuna
Kawakawa
Dogtooth tuna

V. Other Tunas

All of the previous tunas excluding skipjack and yellowfin tuna

VI. Fisheries Categories

A. Pelagics

All PMUS and tuna species plus the following:
Rainbow runner
Barracuda
Japanese mackerel
Frigate tuna
Ocean sunfish
Ocean moonfish

B. Bottom Fish

All BMUS plus the following:
Blue crevally
Dobe ulua (jack)
Paapaa ulua
Blue spot grouper
Porgy

C. Reef Fish

Reef jacks (unclassified)
Squirrelfish
Trumpetfish
Scorpionfish
Mountain bass

C. Reef Fish (cont.)

Bigeyes
Cardinalfish
Goatfish
Rudderfish
Butterflyfish
Damselfish
Hawkfish
Tilapia
Wrasse
Parrotfish
Gobies
Surgeonfish-tangs
Flounders
Triggerfish
Filefish
Pufferfish

D. Other

Miscellaneous
Sharks
Rays
Eels
Bigeye scad (akule)
Mackerel scad (opelu)
Leatherback
Anchovy
Ten pounder
Bonefish
Herring-sardine
Milkfish
Flyingfish
Needlefish
Halfbeaks
Threadfin
Mullet
Pomfret
Snake mackerel
Freshwater fish
Spiny lobster
Slipper lobster
Crabs
Shrimp (freshwater)
Shrimp (saltwater)
Octopus
Squid
Limpets (saltwater)
Limpets (freshwater)
Clams
Stoney corals
Precious corals

D. Other (cont.)

Sea urchins
Sea cucumbers
Sea turtles
Algae

Table V.1.1

HAWAII 1985 ANNUAL COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	12401.00	22527.00	1.82
SHARKS	10722.00	12959.00	1.21
RAYS	56.00	45.00	0.80
EELS	1419.00	631.00	0.44
ALFONSIN	160.00	206.00	1.29
BIGEYE SCAD (AKULE)	222135.00	357277.00	1.61
MACKEREL SCAD	199617.00	334110.00	1.67
LEATHERBACK	318.00	398.00	1.25
TEN POUNDER	991.00	813.00	0.82
BONEFISH	16323.00	16105.00	0.99
HERRING/SARDINE	23.00	28.00	1.22
MILKFISH	1175.00	1233.00	1.05
FLYING FISH	6.00	4.00	0.67
NEEDLEFISH	1064.00	2222.48	2.09
HALFBEAKS	86.00	86.00	1.00
THREADFIN	1542.00	4375.00	2.84
MULLET	12078.00	30373.00	2.51
POMFRET	7291.00	10959.00	1.50
SNAKE MACKEREL	678.00	240.00	0.35
JACKS (MISC.)	52471.00	98094.00	1.87
AMBERJACK	34224.00	24558.00	0.72
BLUE CREVALLY	5705.00	9650.00	1.69
PIG-LIPPED ULUA	51295.00	43961.00	0.86
DOBE ULUA	2667.00	3981.00	1.49
PAAPAA ULUA	4098.00	7012.00	1.71
WHITE ULUA	32217.00	33326.00	1.03
BLACK ULUA	2149.00	1420.00	0.66
GIANT SEA BASS	97878.00	160427.00	1.64
BLUE SPOT GROUPER	362.00	809.00	2.23
SNAPPERS	15204.00	15450.00	1.02
BLUE LINED SNAPPER	55425.00	43197.00	0.78
EHU (RED SNAPPER)	64933.00	181144.00	2.79
GINDAI (FLOWER SNAP)	6821.00	14318.00	2.10
KALIKALI (PINK SNAP)	26592.00	56815.00	2.14
LEHI (SILVERJAW)	28314.00	75063.00	2.65
ONAGA (RED SNAPPER)	231071.00	834754.00	3.61
OPAKAPAKA (PINK SNP)	291517.00	945862.00	3.24
UKU (GRAY SNAPPER)	51817.00	150533.00	2.91
PORGY	2339.00	4704.00	2.01
REEF JACKS	321.00	937.00	2.92
SQUIRRELFISH	38709.00	89441.10	2.31
TRUMPETFISH	144.00	90.00	0.63
SCORPIONFISH	3782.00	8502.00	2.25
MOUNTAIN BASS	3553.00	6955.00	1.96
BIGEYES	4946.00	7316.00	1.48
CARDINALFISH	7.00	9.00	1.29

Table V.1.1 (Cont.)

HAWAII 1985 ANNUAL COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
GOATFISH	69628.00	135784.50	1.95
RUDDERFISH	8862.00	6445.00	0.73
BUTTERFLYFISH	229.00	100.00	0.44
DAMSELFISH	1420.00	1668.00	1.17
HAWKFISH	928.00	1353.00	1.46
TILAPIA	2077.00	5660.00	2.73
WRASSE	9009.00	19912.00	2.21
PARROTFISH	26524.00	32102.00	1.21
GOBIES	792.00	1026.00	1.30
SURGEON/TANGS	46062.00	39717.40	0.86
FLOUNDERS	18.00	17.00	0.94
TRIGGERFISH	127.00	334.20	2.63
FILEFISH	1106.00	787.25	0.71
RAINBOW RUNNER	3328.00	3467.00	1.04
DOLPHIN (MAHIMAHI)	338188.00	1051251.00	3.11
BARRACUDAS	9910.00	11478.00	1.16
WAHOO	296890.00	769965.00	2.59
JAPANESE MACKEREL	36.00	16.00	0.44
TUNAS	18.00	18.00	1.00
SKIPJACK TUNA	2043084.00	2300719.00	1.13
YELLOWFIN TUNA	2230769.00	3309343.00	1.48
ALBACORE	91085.00	70092.00	0.77
BIGEYE TUNA	160149.00	389008.00	2.43
KAWAKAWA	10500.00	12046.00	1.15
FRIGATE TUNA	247.00	170.00	0.69
BILLFISH	360.00	864.00	2.40
BROADBILL SWORDFISH	11310.00	25601.00	2.26
BLUE MARLIN	297419.00	298816.00	1.00
BLACK MARLIN	10706.00	12645.00	1.18
STRIPED MARLIN	54496.00	89099.00	1.63
SHORTNOSE SPEARFISH	16717.00	31760.00	1.90
SAILFISH	902.00	1445.00	1.60
OCEAN MOONFISH	10342.00	9096.00	0.88
SPINY LOBSTER	401130.00	3003311.00	7.49
SLIPPER LOBSTER	259459.00	1284587.00	4.95
CRABS	31639.00	106224.00	3.36
SHRIMP (FRESHWATER)	215.00	1374.00	6.39
SHRIMP (SALTWATER)	1880.00	3760.00	2.00
OCTOPUS	17850.00	40554.00	2.27
SQUID	6944.00	10796.00	1.55
LIMPETS (SALTWATER)	13741.00	33746.00	2.46
STONEY CORALS	5552.00	5297.00	0.95
PRECIOUS CORALS	58.00	812.00	14.00
SEA URCHINS	15.00	82.00	5.47
SEA CUCUMBERS	88.00	220.00	2.50
ALGAE	15545.00	30139.00	1.94
** TOTAL **	8104000.00	16765626.93	

Table V.1.2

HAWAII 1985 COMMERCIAL LANDINGS NOT SOLD

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	281.00	0.00	0.00
SHARKS	2599.00	0.00	0.00
EELS	112.00	0.00	0.00
BIGEYE SCAD (AKULE)	16201.00	0.00	0.00
MACKEREL SCAD	10677.00	0.00	0.00
LEATHERBACK	112.00	0.00	0.00
ANCHOVY	4.00	0.00	0.00
TEN POUNDER	100.00	0.00	0.00
BONEFISH	1109.00	0.00	0.00
MILKFISH	131.00	0.00	0.00
FLYING FISH	2.00	0.00	0.00
NEEDLEFISH	59.00	0.00	0.00
THREADFIN	67.00	0.00	0.00
MULLET	828.00	0.00	0.00
POMFRET	8.00	0.00	0.00
SNAKE MACKEREL	49.00	0.00	0.00
JACKS (MISC.)	4281.00	0.00	0.00
AMBERJACK	6214.00	0.00	0.00
BLUE CREVALLY	359.00	0.00	0.00
PIG-LIPPED ULUA	57.00	0.00	0.00
DOBE ULUA	36.00	0.00	0.00
PAAPAA ULUA	158.00	0.00	0.00
WHITE ULUA	676.00	0.00	0.00
GIANT SEA BASS	889.00	0.00	0.00
BLUE SPOT GROUPER	18.00	0.00	0.00
SNAPPERS	2656.00	0.00	0.00
BLUE LINED SNAPPER	4119.00	0.00	0.00
EHU (RED SNAPPER)	4077.00	0.00	0.00
GINDAI (FLOWER SNAP)	362.00	0.00	0.00
KALIKALI (PINK SNAP)	2026.00	0.00	0.00
LEHI (SILVERJAW)	2341.00	0.00	0.00
ONAGA (RED SNAPPER)	7131.00	0.00	0.00
OPAKAPAKA (PINK SNP)	11617.00	0.00	0.00
UKU (GRAY SNAPPER)	2199.00	0.00	0.00
PORGY	31.00	0.00	0.00
REEF JACKS	24.00	0.00	0.00
SQUIRRELFISH	2301.00	0.00	0.00
TRUMPETFISH	10.00	0.00	0.00
SCORPIONFISH	264.00	0.00	0.00
MOUNTAIN BASS	251.00	0.00	0.00
BIGEYES	350.00	0.00	0.00
GOATFISH	4035.00	0.00	0.00
RUDDERFISH	721.00	0.00	0.00
DAMSELFISH	23.00	0.00	0.00
HAWKFISH	2.00	0.00	0.00

Table V.1.2 (Cont.)

HAWAII 1985 COMMERCIAL LANDINGS NOT SOLD

SPECIES	POUNDS	VALUE	AVE $/#
TILAPIA	100.00	0.00	0.00
WRASSE	1573.00	0.00	0.00
PARROTFISH	1597.00	0.00	0.00
SURGEON/TANGS	3745.00	0.00	0.00
FLOUNDERS	5.00	0.00	0.00
TRIGGERFISH	455.00	0.00	0.00
FILEFISH	32.00	0.00	0.00
PUFFERFISH	1.00	0.00	0.00
RAINBOW RUNNER	476.00	0.00	0.00
DOLPHIN (MAHIMAHI)	18915.00	0.00	0.00
BARRACUDAS	1377.00	0.00	0.00
WAHOO	17149.00	0.00	0.00
SKIPJACK TUNA	61322.00	0.00	0.00
YELLOWFIN TUNA	97678.00	0.00	0.00
ALBACORE	528.00	0.00	0.00
BIGEYE TUNA	1359.00	0.00	0.00
KAWAKAWA	1670.00	0.00	0.00
FRIGATE TUNA	6.00	0.00	0.00
BROADBILL SWORDFISH	89.00	0.00	0.00
BLUE MARLIN	25643.00	0.00	0.00
BLACK MARLIN	223.00	0.00	0.00
STRIPED MARLIN	4822.00	0.00	0.00
SHORTNOSE SPEARFISH	2096.00	0.00	0.00
SAILFISH	216.00	0.00	0.00
SPINY LOBSTER	662.00	0.00	0.00
SLIPPER LOBSTER	353.00	0.00	0.00
CRABS	6703.00	0.00	0.00
SHRIMP (FRESHWATER)	28.00	0.00	0.00
OCTOPUS	5313.00	0.00	0.00
SQUID	583.00	0.00	0.00
LIMPETS (SALTWATER)	923.00	0.00	0.00
STONEY CORALS	307.00	0.00	0.00
PRECIOUS CORALS	250.00	0.00	0.00
SEA URCHINS	231.00	0.00	0.00
ALGAE	630.00	0.00	0.00
** TOTAL **	346627.00	0.00	

Table V.1.3

HAWAII JANUARY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1011.00	1525.00	1.51
SHARKS	1524.00	2010.00	1.32
RAYS	56.00	45.00	0.80
EELS	273.00	101.00	0.37
BIGEYE SCAD (AKULE)	18634.00	28100.00	1.51
MACKEREL SCAD	5749.00	9797.00	1.70
TEN POUNDER	13.00	14.00	1.08
BONEFISH	1907.00	1881.00	0.99
NEEDLEFISH	90.00	139.00	1.54
THREADFIN	184.00	426.00	2.32
MULLET	909.00	2245.00	2.47
POMFRET	581.00	1092.00	1.88
SNAKE MACKEREL	261.00	104.00	0.40
JACKS (MISC.)	7092.00	13209.00	1.86
AMBERJACK	8923.00	7989.00	0.90
BLUE CREVALLY	166.00	389.00	2.34
PIG-LIPPED ULUA	2067.00	2912.00	1.41
DOBE ULUA	300.00	414.00	1.38
PAAPAA ULUA	751.00	1784.00	2.38
WHITE ULUA	413.00	1166.00	2.82
GIANT SEA BASS	14528.00	18209.00	1.25
BLUE SPOT GROUPER	16.00	33.00	2.06
SNAPPERS	2153.00	1903.00	0.88
BLUE LINED SNAPPER	8107.00	6946.00	0.86
EHU (RED SNAPPER)	6051.00	17827.00	2.95
GINDAI (FLOWER SNAP)	787.00	1545.00	1.96
KALIKALI (PINK SNAP)	4188.00	8868.00	2.12
LEHI (SILVERJAW)	3949.00	10729.00	2.72
ONAGA (RED SNAPPER)	28118.00	101861.00	3.62
OPAKAPAKA (PINK SNP)	47288.00	163206.00	3.45
UKU (GRAY SNAPPER)	5887.00	17713.00	3.01
PORGY	325.00	875.00	2.69
SQUIRRELFISH	2866.00	6934.00	2.42
TRUMPETFISH	56.00	23.00	0.41
SCORPIONFISH	349.00	915.00	2.62
MOUNTAIN BASS	415.00	783.00	1.89
BIGEYES	396.00	659.00	1.66
GOATFISH	8001.00	17587.00	2.20
RUDDERFISH	319.00	224.00	0.70
BUTTERFLYFISH	14.00	4.00	0.29
DAMSELFISH	309.00	329.00	1.06
HAWKFISH	36.00	57.00	1.58
TILAPIA	76.00	199.00	2.62
WRASSE	1106.00	2712.00	2.45

Table V.1.3 (Cont.)

HAWAII JANUARY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
PARROTFISH	3158.00	4001.00	1.27
SURGEON/TANGS	4598.00	4134.00	0.90
FLOUNDERS	9.00	10.00	1.11
TRIGGERFISH	2.00	0.20	0.10
FILEFISH	101.00	42.00	0.42
RAINBOW RUNNER	247.00	266.00	1.08
DOLPHIN (MAHIMAHI)	21588.00	77597.00	3.59
BARRACUDAS	1047.00	1072.00	1.02
WAHOO	6713.00	25115.00	3.74
JAPANESE MACKEREL	5.00	8.00	1.60
SKIPJACK TUNA	69622.00	123495.00	1.77
YELLOWFIN TUNA	73922.00	207644.00	2.81
ALBACORE	74.00	252.00	3.41
BIGEYE TUNA	10611.00	30788.00	2.90
KAWAKAWA	253.00	408.00	1.61
FRIGATE TUNA	95.00	121.00	1.27
BROADBILL SWORDFISH	140.00	407.00	2.91
BLUE MARLIN	3906.00	6830.00	1.75
BLACK MARLIN	304.00	152.00	0.50
STRIPED MARLIN	1517.00	4820.00	3.18
SHORTNOSE SPEARFISH	2018.00	4640.00	2.30
OCEAN MOONFISH	1587.00	1779.00	1.12
SPINY LOBSTER	8694.00	63717.00	7.33
SLIPPER LOBSTER	6887.00	34450.00	5.00
CRABS	2748.00	9441.00	3.44
OCTOPUS	891.00	1970.00	2.21
LIMPETS (SALTWATER)	1161.00	2848.00	2.45
ALGAE	1332.00	3137.00	2.36
** SUBTOTAL **	409474.00	1064627.20	

Table V.1.4

HAWAII FEBRUARY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1081.00	1839.00	1.70
SHARKS	2007.00	2744.00	1.37
EELS	301.00	135.00	0.45
BIGEYE SCAD (AKULE)	15702.00	26327.00	1.68
MACKEREL SCAD	11826.00	18669.00	1.58
TEN POUNDER	14.00	15.00	1.07
BONEFISH	821.00	827.00	1.01
MILKFISH	39.00	15.00	0.38
THREADFIN	18.00	38.00	2.11
MULLET	1112.00	2748.00	2.47
POMFRET	731.00	1067.00	1.46
SNAKE MACKEREL	73.00	36.00	0.49
JACKS (MISC.)	2620.00	5367.00	2.05
AMBERJACK	4086.00	4746.00	1.16
BLUE CREVALLY	48.00	61.00	1.27
PIG-LIPPED ULUA	4260.00	6114.00	1.44
DOBE ULUA	1147.00	1269.00	1.11
PAAPAA ULUA	168.00	338.00	2.01
WHITE ULUA	293.00	516.00	1.76
BLACK ULUA	17.00	28.00	1.65
GIANT SEA BASS	14237.00	24587.00	1.73
BLUE SPOT GROUPER	10.00	16.00	1.60
SNAPPERS	1702.00	1278.00	0.75
BLUE LINED SNAPPER	7044.00	5965.00	0.85
EHU (RED SNAPPER)	5185.00	13270.00	2.56
GINDAI (FLOWER SNAP)	667.00	1486.00	2.23
KALIKALI (PINK SNAP)	2388.00	4729.00	1.98
LEHI (SILVERJAW)	2846.00	7939.00	2.79
ONAGA (RED SNAPPER)	27885.00	95477.00	3.42
OPAKAPAKA (PINK SNP)	36490.00	130125.00	3.57
UKU (GRAY SNAPPER)	1321.00	3372.00	2.55
PORGY	344.00	952.00	2.77
SQUIRRELFISH	1812.00	4559.10	2.52
TRUMPETFISH	11.00	10.00	0.91
SCORPIONFISH	331.00	674.00	2.04
MOUNTAIN BASS	120.00	259.00	2.16
BIGEYES	236.00	378.00	1.60
GOATFISH	7380.00	15401.00	2.09
RUDDERFISH	497.00	361.00	0.73
BUTTERFLYFISH	72.00	18.00	0.25
DAMSELFISH	135.00	128.00	0.95
HAWKFISH	73.00	96.00	1.32
TILAPIA	80.00	233.00	2.91
WRASSE	1072.00	2813.00	2.62

Table V.1.4 (Cont.)

HAWAII FEBRUARY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
PARROTFISH	2289.00	2905.00	1.27
SURGEON/TANGS	4453.00	3961.00	0.89
FILEFISH	150.00	73.00	0.49
RAINBOW RUNNER	81.00	105.00	1.30
DOLPHIN (MAHIMAHI)	23546.00	87545.00	3.72
BARRACUDAS	909.00	911.00	1.00
WAHOO	5761.00	21338.00	3.70
SKIPJACK TUNA	17483.00	28504.00	1.63
YELLOWFIN TUNA	42743.00	96617.00	2.26
ALBACORE	12.00	21.00	1.75
BIGEYE TUNA	27860.00	93405.00	3.35
KAWAKAWA	1823.00	3582.00	1.96
BROADBILL SWORDFISH	99.00	205.00	2.07
BLUE MARLIN	17901.00	22316.00	1.25
BLACK MARLIN	884.00	1619.00	1.83
STRIPED MARLIN	2968.00	6241.00	2.10
SHORTNOSE SPEARFISH	1613.00	3371.00	2.09
OCEAN MOONFISH	750.00	817.00	1.09
SPINY LOBSTER	17475.00	141485.00	8.10
SLIPPER LOBSTER	16399.00	84616.00	5.16
CRABS	1955.00	6664.00	3.41
SHRIMP (FRESHWATER)	42.00	125.00	2.98
SHRIMP (SALTWATER)	1880.00	3760.00	2.00
OCTOPUS	779.00	1789.00	2.30
SQUID	67.00	140.00	2.09
LIMPETS (SALTWATER)	149.00	544.00	3.65
STONEY CORALS	200.00	200.00	1.00
ALGAE	1235.00	2351.00	1.90
** SUBTOTAL **	349808.00	1002235.10	

Table V.1.5

HAWAII MARCH 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1241.00	2255.00	1.82
SHARKS	519.00	863.00	1.66
EELS	92.00	65.00	0.71
BIGEYE SCAD (AKULE)	17662.00	28984.00	1.64
MACKEREL SCAD	8643.00	13470.00	1.56
LEATHERBACK	6.00	3.00	0.50
TEN POUNDER	219.00	103.00	0.47
BONEFISH	691.00	756.00	1.09
MILKFISH	24.00	30.00	1.25
NEEDLEFISH	32.00	34.00	1.06
THREADFIN	28.00	123.00	4.39
MULLET	2623.00	6532.00	2.49
POMFRET	581.00	1136.00	1.96
SNAKE MACKEREL	31.00	23.00	0.74
JACKS (MISC.)	866.00	1758.00	2.03
AMBERJACK	449.00	484.00	1.08
BLUE CREVALLY	27.00	50.00	1.85
PIG-LIPPED ULUA	583.00	1339.00	2.30
DOBE ULUA	68.00	119.00	1.75
PAAPAA ULUA	14.00	34.00	2.43
WHITE ULUA	48.00	81.00	1.69
GIANT SEA BASS	5375.00	12512.00	2.33
BLUE SPOT GROUPER	7.00	11.00	1.57
SNAPPERS	1341.00	1217.00	0.91
BLUE LINED SNAPPER	2965.00	2328.00	0.79
EHU (RED SNAPPER)	1269.00	5467.00	4.31
GINDAI (FLOWER SNAP)	87.00	297.00	3.41
KALIKALI (PINK SNAP)	423.00	1624.00	3.84
LEHI (SILVERJAW)	182.00	650.00	3.57
ONAGA (RED SNAPPER)	5883.00	39209.00	6.66
OPAKAPAKA (PINK SNP)	3737.00	21957.00	5.88
UKU (GRAY SNAPPER)	112.00	290.00	2.59
PORGY	107.00	304.00	2.84
REEF JACKS	1.00	1.00	1.00
SQUIRRELFISH	1987.00	5551.00	2.79
SCORPIONFISH	57.00	154.00	2.70
MOUNTAIN BASS	347.00	889.00	2.56
BIGEYES	65.00	100.00	1.54
GOATFISH	3728.00	6730.00	1.81
RUDDERFISH	291.00	260.00	0.89
BUTTERFLYFISH	66.00	30.00	0.45
DAMSELFISH	31.00	51.00	1.65
HAWKFISH	47.00	99.00	2.11
TILAPIA	117.00	346.00	2.96

Table V.1.5 (Cont.)

HAWAII MARCH 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
WRASSE	302.00	839.00	2.78
PARROTFISH	626.00	796.00	1.27
SURGEON/TANGS	2718.00	2617.00	0.96
FILEFISH	146.00	160.00	1.10
RAINBOW RUNNER	17.00	17.00	1.00
DOLPHIN (MAHIMAHI)	43677.00	150272.00	3.44
BARRACUDAS	167.00	193.00	1.16
WAHOO	7754.00	28594.00	3.69
SKIPJACK TUNA	57293.00	89795.00	1.57
YELLOWFIN TUNA	144120.00	272078.00	1.89
ALBACORE	567.00	903.00	1.59
BIGEYE TUNA	10728.00	23021.00	2.15
KAWAKAWA	629.00	800.00	1.27
BROADBILL SWORDFISH	320.00	805.00	2.52
BLUE MARLIN	42310.00	42273.00	1.00
BLACK MARLIN	473.00	747.00	1.58
STRIPED MARLIN	4919.00	10656.00	2.17
SHORTNOSE SPEARFISH	2390.00	5426.00	2.27
OCEAN MOONFISH	351.00	421.00	1.20
SPINY LOBSTER	15211.00	126354.00	8.31
SLIPPER LOBSTER	20224.00	107442.00	5.31
CRABS	389.00	1213.00	3.12
OCTOPUS	408.00	987.00	2.42
LIMPETS (SALTWATER)	1835.00	4235.00	2.31
STONEY CORALS	550.00	559.00	1.02
ALGAE	2024.00	2656.00	1.31
** SUBTOTAL **	422820.00	1032178.00	

Table V.1.6

HAWAII APRIL 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1272.00	2239.00	1.76
SHARKS	893.00	1114.00	1.25
EELS	169.00	63.00	0.37
BIGEYE SCAD (AKULE)	18717.00	32312.00	1.73
MACKEREL SCAD	15938.00	24456.00	1.53
LEATHERBACK	19.00	61.00	3.21
TEN POUNDER	32.00	31.00	0.97
BONEFISH	685.00	710.00	1.04
MILKFISH	234.00	182.00	0.78
NEEDLEFISH	10.00	10.00	1.00
HALFBEAKS	86.00	86.00	1.00
THREADFIN	47.00	161.00	3.43
MULLET	1635.00	4086.00	2.50
POMFRET	498.00	540.00	1.08
SNAKE MACKEREL	138.00	28.00	0.20
JACKS (MISC.)	1894.00	3680.00	1.94
AMBERJACK	2287.00	1250.00	0.55
BLUE CREVALLY	495.00	933.00	1.88
PIG-LIPPED ULUA	2037.00	2086.00	1.02
DOBE ULUA	306.00	581.00	1.90
PAAPAA ULUA	79.00	176.00	2.23
WHITE ULUA	827.00	1692.00	2.05
GIANT SEA BASS	6982.00	10641.00	1.52
BLUE SPOT GROUPER	31.00	74.00	2.39
SNAPPERS	2358.00	2121.00	0.90
BLUE LINED SNAPPER	5548.00	3911.00	0.70
EHU (RED SNAPPER)	4874.00	13482.00	2.77
GINDAI (FLOWER SNAP)	442.00	750.00	1.70
KALIKALI (PINK SNAP)	916.00	2658.00	2.90
LEHI (SILVERJAW)	1028.00	3580.00	3.48
ONAGA (RED SNAPPER)	16347.00	64115.00	3.92
OPAKAPAKA (PINK SNP)	12134.00	39754.00	3.28
UKU (GRAY SNAPPER)	1789.00	5748.00	3.21
PORGY	411.00	519.00	1.26
REEF JACKS	25.00	81.00	3.24
SQUIRRELFISH	2130.00	5037.00	2.36
SCORPIONFISH	182.00	382.00	2.10
MOUNTAIN BASS	760.00	1294.00	1.70
BIGEYES	437.00	697.00	1.59
CARDINALFISH	1.00	1.00	1.00
GOATFISH	7343.00	13530.00	1.84
RUDDERFISH	1062.00	753.00	0.71
BUTTERFLYFISH	24.00	12.00	0.50
DAMSELFISH	62.00	44.00	0.71

Table V.1.6 (Cont.)

HAWAII APRIL 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
HAWKFISH	29.00	32.00	1.10
TILAPIA	210.00	476.00	2.27
WRASSE	1230.00	2985.00	2.43
PARROTFISH	1441.00	1815.00	1.26
SURGEON/TANGS	3446.00	3255.00	0.94
TRIGGERFISH	7.00	27.00	3.86
FILEFISH	185.00	169.00	0.91
RAINBOW RUNNER	476.00	421.00	0.88
DOLPHIN (MAHIMAHI)	41020.00	113774.00	2.77
BARRACUDAS	726.00	726.00	1.00
WAHOO	32051.00	87701.00	2.74
SKIPJACK TUNA	171144.00	213342.00	1.25
YELLOWFIN TUNA	190892.00	271723.00	1.42
ALBACORE	3744.00	5658.00	1.51
BIGEYE TUNA	17923.00	38122.00	2.13
KAWAKAWA	459.00	540.00	1.18
FRIGATE TUNA	152.00	49.00	0.32
BROADBILL SWORDFISH	998.00	2226.00	2.23
BLUE MARLIN	37306.00	28205.00	0.76
BLACK MARLIN	755.00	405.00	0.54
STRIPED MARLIN	13327.00	18309.00	1.37
SHORTNOSE SPEARFISH	1953.00	3231.00	1.65
SAILFISH	21.00	14.00	0.67
OCEAN MOONFISH	1652.00	958.00	0.58
SPINY LOBSTER	6482.00	51127.00	7.89
SLIPPER LOBSTER	31710.00	57756.00	1.82
CRABS	1934.00	6345.00	3.28
OCTOPUS	1301.00	2994.00	2.30
LIMPETS (SALTWATER)	2449.00	5619.00	2.29
STONEY CORALS	300.00	400.00	1.33
ALGAE	1890.00	2546.00	1.35
** SUBTOTAL **	680397.00	1166611.00	

Table V.1.7

HAWAII MAY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	979.00	1962.00	2.00
SHARKS	831.00	676.00	0.81
EELS	204.00	85.00	0.42
BIGEYE SCAD (AKULE)	26649.00	43967.00	1.65
MACKEREL SCAD	10963.00	19464.00	1.78
LEATHERBACK	59.00	116.00	1.97
TEN POUNDER	227.00	203.00	0.89
BONEFISH	412.00	412.00	1.00
MILKFISH	153.00	182.00	1.19
FLYING FISH	3.00	2.00	0.67
NEEDLEFISH	52.00	54.00	1.04
THREADFIN	79.00	221.00	2.80
MULLET	529.00	1301.00	2.46
POMFRET	190.00	218.00	1.15
JACKS (MISC.)	2080.00	4027.00	1.94
AMBERJACK	1862.00	1039.00	0.56
BLUE CREVALLY	358.00	945.00	2.64
PIG-LIPPED ULUA	563.00	514.00	0.91
DOBE ULUA	214.00	218.00	1.02
PAAPAA ULUA	231.00	394.00	1.71
WHITE ULUA	894.00	1040.00	1.16
BLACK ULUA	86.00	101.00	1.17
GIANT SEA BASS	4212.00	7466.00	1.77
BLUE SPOT GROUPER	41.00	98.00	2.39
SNAPPERS	1938.00	2098.00	1.08
BLUE LINED SNAPPER	1671.00	1428.00	0.85
EHU (RED SNAPPER)	3441.00	10540.00	3.06
GINDAI (FLOWER SNAP)	268.00	733.00	2.74
KALIKALI (PINK SNAP)	791.00	2359.00	2.98
LEHI (SILVERJAW)	880.00	1693.00	1.92
ONAGA (RED SNAPPER)	5353.00	22398.00	4.18
OPAKAPAKA (PINK SNP)	11491.00	41075.00	3.57
UKU (GRAY SNAPPER)	6873.00	21572.00	3.14
PORGY	26.00	51.00	1.96
REEF JACKS	139.00	463.00	3.33
SQUIRRELFISH	2054.00	4888.00	2.38
SCORPIONFISH	286.00	633.00	2.21
MOUNTAIN BASS	236.00	519.00	2.20
BIGEYES	587.00	815.00	1.39
GOATFISH	7764.00	12938.00	1.67
RUDDERFISH	640.00	534.00	0.83
DAMSELFISH	148.00	201.00	1.36
HAWKFISH	26.00	35.00	1.35
TILAPIA	65.00	178.00	2.74

Table V.1.7 (Cont.)

HAWAII MAY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
WRASSE	429.00	910.00	2.12
PARROTFISH	1486.00	1929.00	1.30
SURGEON/TANGS	2481.00	2159.00	0.87
TRIGGERFISH	59.00	101.00	1.71
FILEFISH	73.00	72.00	0.99
RAINBOW RUNNER	277.00	271.00	0.98
DOLPHIN (MAHIMAHI)	24358.00	74282.00	3.05
BARRACUDAS	411.00	655.00	1.59
WAHOO	40482.00	88832.00	2.19
SKIPJACK TUNA	261477.00	316799.00	1.21
YELLOWFIN TUNA	216216.00	261706.00	1.21
ALBACORE	3089.00	3091.00	1.00
BIGEYE TUNA	14246.00	26985.00	1.89
KAWAKAWA	734.00	491.00	0.67
BROADBILL SWORDFISH	2291.00	4895.00	2.14
BLUE MARLIN	25187.00	19361.00	0.77
BLACK MARLIN	289.00	256.00	0.89
STRIPED MARLIN	7781.00	11132.00	1.43
SHORTNOSE SPEARFISH	2280.00	3138.00	1.38
SAILFISH	103.00	99.00	0.96
OCEAN MOONFISH	899.00	1045.00	1.16
SPINY LOBSTER	28996.00	241394.00	8.33
SLIPPER LOBSTER	49604.00	264389.00	5.33
CRABS	3626.00	11001.00	3.03
SHRIMP (FRESHWATER)	10.00	200.00	20.00
OCTOPUS	1424.00	3195.00	2.24
SQUID	248.00	298.00	1.20
LIMPETS (SALTWATER)	1960.00	4579.00	2.34
STONEY CORALS	430.00	700.00	1.63
SEA URCHINS	15.00	82.00	5.47
ALGAE	1901.00	4058.00	2.13
** SUBTOTAL **	789410.00	1557961.00	

Table V.1.8

HAWAII JUNE 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	411.00	765.00	1.86
SHARKS	472.00	295.00	0.63
EELS	58.00	18.00	0.31
BIGEYE SCAD (AKULE)	31971.00	46934.00	1.47
MACKEREL SCAD	15447.00	25141.00	1.63
LEATHERBACK	47.00	12.00	0.26
TEN POUNDER	130.00	129.00	0.99
BONEFISH	822.00	813.00	0.99
MILKFISH	266.00	177.00	0.67
FLYING FISH	2.00	1.00	0.50
NEEDLEFISH	22.00	5.00	0.23
THREADFIN	61.00	191.00	3.13
MULLET	425.00	962.00	2.26
POMFRET	299.00	234.00	0.78
JACKS (MISC.)	4676.00	8189.00	1.75
AMBERJACK	4123.00	2289.00	0.56
BLUE CREVALLY	217.00	287.00	1.32
PIG-LIPPED ULUA	3429.00	1891.00	0.55
DOBE ULUA	9.00	10.00	1.11
PAAPAA ULUA	357.00	605.00	1.69
WHITE ULUA	3192.00	2741.00	0.86
BLACK ULUA	145.00	145.00	1.00
GIANT SEA BASS	6706.00	9592.00	1.43
BLUE SPOT GROUPER	50.00	126.00	2.52
SNAPPERS	2420.00	2249.00	0.93
BLUE LINED SNAPPER	4422.00	2994.00	0.68
EHU (RED SNAPPER)	5158.00	14817.00	2.87
GINDAI (FLOWER SNAP)	657.00	1390.00	2.12
KALIKALI (PINK SNAP)	1363.00	3289.00	2.41
LEHI (SILVERJAW)	798.00	1753.00	2.20
ONAGA (RED SNAPPER)	10995.00	41418.00	3.77
OPAKAPAKA (PINK SNP)	12286.00	38157.00	3.11
UKU (GRAY SNAPPER)	10815.00	30411.00	2.81
PORGY	370.00	651.00	1.76
REEF JACKS	151.00	380.00	2.52
SQUIRRELFISH	4033.00	8927.00	2.21
SCORPIONFISH	449.00	1016.00	2.26
MOUNTAIN BASS	206.00	387.00	1.88
BIGEYES	511.00	831.00	1.63
GOATFISH	7203.00	12301.00	1.71
RUDDERFISH	1396.00	1010.00	0.72
DAMSELFISH	65.00	87.00	1.34
HAWKFISH	73.00	107.00	1.47
TILAPIA	10.00	20.00	2.00

Table V.1.8 (Cont.)

HAWAII JUNE 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
WRASSE	937.00	1941.00	2.07
PARROTFISH	2474.00	2965.00	1.20
SURGEON/TANGS	4148.00	3746.00	0.90
TRIGGERFISH	4.00	16.00	4.00
FILEFISH	176.00	129.00	0.73
RAINBOW RUNNER	347.00	367.00	1.06
DOLPHIN (MAHIMAHI)	17196.00	54642.00	3.18
BARRACUDAS	660.00	691.00	1.05
WAHOO	49328.00	97598.00	1.98
SKIPJACK TUNA	205008.00	222458.00	1.09
YELLOWFIN TUNA	218993.00	306143.00	1.40
ALBACORE	67713.00	39140.00	0.58
BIGEYE TUNA	24730.00	33706.00	1.36
KAWAKAWA	449.00	402.00	0.90
BILLFISH	360.00	864.00	2.40
BROADBILL SWORDFISH	3850.00	8133.00	2.11
BLUE MARLIN	22343.00	19455.00	0.87
BLACK MARLIN	207.00	128.00	0.62
STRIPED MARLIN	12810.00	13261.00	1.04
SHORTNOSE SPEARFISH	1934.00	2643.00	1.37
SAILFISH	145.00	172.00	1.19
OCEAN MOONFISH	1566.00	848.00	0.54
SPINY LOBSTER	52588.00	279812.00	5.32
SLIPPER LOBSTER	18460.00	96250.00	5.21
CRABS	507.00	845.00	1.67
SHRIMP (FRESHWATER)	91.00	299.00	3.29
OCTOPUS	1178.00	2748.00	2.33
SQUID	383.00	710.00	1.85
LIMPETS (SALTWATER)	2273.00	5500.00	2.42
STONEY CORALS	620.00	620.00	1.00
ALGAE	1967.00	3665.00	1.86
** SUBTOTAL **	850163.00	1463644.00	

Table V.1.9

HAWAII JULY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	968.00	1866.00	1.93
SHARKS	799.00	435.00	0.54
EELS	134.00	58.00	0.43
BIGEYE SCAD (AKULE)	24596.00	37922.00	1.54
MACKEREL SCAD	19694.00	33641.00	1.71
LEATHERBACK	14.00	13.00	0.93
TEN POUNDER	90.00	89.00	0.99
BONEFISH	2290.00	1895.00	0.83
MILKFISH	53.00	68.00	1.28
NEEDLEFISH	3.00	0.48	0.16
THREADFIN	221.00	664.00	3.00
MULLET	650.00	1682.00	2.59
POMFRET	112.00	268.00	2.39
JACKS (MISC.)	5094.00	10343.00	2.03
AMBERJACK	948.00	737.00	0.78
BLUE CREVALLY	1439.00	2808.00	1.95
PIG-LIPPED ULUA	9129.00	2689.00	0.29
DOBE ULUA	16.00	21.00	1.31
PAAPAA ULUA	164.00	299.00	1.82
WHITE ULUA	6984.00	5670.00	0.81
BLACK ULUA	13.00	7.00	0.54
GIANT SEA BASS	4715.00	8052.00	1.71
BLUE SPOT GROUPER	8.00	20.00	2.50
SNAPPERS	789.00	1166.00	1.48
BLUE LINED SNAPPER	5200.00	3328.00	0.64
EHU (RED SNAPPER)	3117.00	9151.00	2.94
GINDAI (FLOWER SNAP)	320.00	635.00	1.98
KALIKALI (PINK SNAP)	1851.00	4390.00	2.37
LEHI (SILVERJAW)	346.00	956.00	2.76
ONAGA (RED SNAPPER)	5420.00	24844.00	4.58
OPAKAPAKA (PINK SNP)	19855.00	61335.00	3.09
UKU (GRAY SNAPPER)	5513.00	17300.00	3.14
PORGY	73.00	113.00	1.55
REEF JACKS	1.00	2.00	2.00
SQUIRRELFISH	4122.00	9019.00	2.19
TRUMPETFISH	9.00	3.00	0.33
SCORPIONFISH	227.00	509.00	2.24
MOUNTAIN BASS	253.00	455.00	1.80
BIGEYES	471.00	668.00	1.42
GOATFISH	5142.00	9711.00	1.89
RUDDERFISH	789.00	615.00	0.78
DAMSELFISH	66.00	57.00	0.86
HAWKFISH	76.00	113.00	1.49
TILAPIA	274.00	800.00	2.92

Table V.1.9 (Cont.)

HAWAII JULY 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
WRASSE	793.00	1501.00	1.89
PARROTFISH	2549.00	2835.00	1.11
SURGEON/TANGS	3785.00	3370.00	0.89
FLOUNDERS	1.00	1.00	1.00
TRIGGERFISH	8.00	28.00	3.50
FILEFISH	132.00	60.00	0.45
RAINBOW RUNNER	202.00	190.00	0.94
DOLPHIN (MAHIMAHI)	18621.00	61779.00	3.32
BARRACUDAS	1136.00	1286.00	1.13
WAHOO	29866.00	75721.00	2.54
SKIPJACK TUNA	446598.00	440305.00	0.99
YELLOWFIN TUNA	169774.00	282891.00	1.67
ALBACORE	2407.00	3690.00	1.53
BIGEYE TUNA	14588.00	17888.00	1.23
KAWAKAWA	393.00	489.00	1.24
BROADBILL SWORDFISH	2070.00	5275.00	2.55
BLUE MARLIN	29527.00	29933.00	1.01
BLACK MARLIN	2991.00	2552.00	0.85
STRIPED MARLIN	2369.00	3973.00	1.68
SHORTNOSE SPEARFISH	1030.00	1706.00	1.66
SAILFISH	42.00	42.00	1.00
OCEAN MOONFISH	144.00	121.00	0.84
SPINY LOBSTER	55775.00	459072.00	8.23
SLIPPER LOBSTER	13690.00	75092.00	5.49
CRABS	460.00	1527.00	3.32
SHRIMP (FRESHWATER)	5.00	100.00	20.00
OCTOPUS	1384.00	3174.00	2.29
SQUID	440.00	944.00	2.15
LIMPETS (SALTWATER)	493.00	1428.00	2.90
STONEY CORALS	750.00	750.00	1.00
SEA CUCUMBERS	32.00	80.00	2.50
ALGAE	1025.00	1903.00	1.86
** SUBTOTAL **	935128.00	1734123.48	

Table V.1.10

HAWAII AUGUST 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1530.00	2875.00	1.88
SHARKS	506.00	465.00	0.92
EELS	54.00	35.00	0.65
ALFONSIN	7.00	7.00	1.00
BIGEYE SCAD (AKULE)	17510.00	28408.00	1.62
MACKEREL SCAD	25521.00	43311.00	1.70
LEATHERBACK	61.00	61.00	1.00
TEN POUNDER	44.00	36.00	0.82
BONEFISH	1245.00	1166.00	0.94
MILKFISH	106.00	118.00	1.11
FLYING FISH	1.00	1.00	1.00
NEEDLEFISH	4.00	1.00	0.25
THREADFIN	599.00	1684.00	2.81
MULLET	1281.00	2847.00	2.22
POMFRET	265.00	365.00	1.38
JACKS (MISC.)	6138.00	11236.00	1.83
AMBERJACK	3157.00	1374.00	0.44
BLUE CREVALLY	928.00	815.00	0.88
PIG-LIPPED ULUA	4056.00	4071.00	1.00
DOBE ULUA	10.00	15.00	1.50
PAAPAA ULUA	82.00	149.00	1.82
WHITE ULUA	3999.00	4056.00	1.01
BLACK ULUA	784.00	150.00	0.19
GIANT SEA BASS	8037.00	12762.00	1.59
BLUE SPOT GROUPER	42.00	100.00	2.38
SNAPPERS	726.00	693.00	0.95
BLUE LINED SNAPPER	4706.00	3531.00	0.75
EHU (RED SNAPPER)	4120.00	11302.00	2.74
GINDAI (FLOWER SNAP)	582.00	1178.00	2.02
KALIKALI (PINK SNAP)	1575.00	3798.00	2.41
LEHI (SILVERJAW)	1914.00	5344.00	2.79
ONAGA (RED SNAPPER)	12709.00	49979.00	3.93
OPAKAPAKA (PINK SNP)	15515.00	49618.00	3.20
UKU (GRAY SNAPPER)	3938.00	11699.00	2.97
PORGY	189.00	247.00	1.31
SQUIRRELFISH	4727.00	10510.00	2.22
SCORPIONFISH	284.00	626.00	2.20
MOUNTAIN BASS	370.00	642.00	1.74
BIGEYES	535.00	799.00	1.49
CARDINALFISH	4.00	4.00	1.00
GOATFISH	5506.00	10880.00	1.98
RUDDERFISH	1072.00	655.00	0.61
DAMSELFISH	111.00	124.00	1.12
HAWKFISH	86.00	114.00	1.33

Table V.1.10 (Cont.)

HAWAII AUGUST 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
TILAPIA	285.00	850.00	2.98
WRASSE	651.00	1556.00	2.39
PARROTFISH	2554.00	2922.00	1.14
SURGEON/TANGS	5624.00	4821.00	0.86
TRIGGERFISH	19.00	54.00	2.84
FILEFISH	49.00	62.00	1.27
RAINBOW RUNNER	149.00	162.00	1.09
DOLPHIN (MAHIMAHI)	33919.00	97906.00	2.89
BARRACUDAS	441.00	553.00	1.25
WAHOO	34376.00	98211.00	2.86
SKIPJACK TUNA	451846.00	455982.00	1.01
YELLOWFIN TUNA	344930.00	395147.00	1.15
ALBACORE	2272.00	2357.00	1.04
BIGEYE TUNA	302.00	825.00	2.73
KAWAKAWA	228.00	251.00	1.10
BROADBILL SWORDFISH	667.00	1567.00	2.35
BLUE MARLIN	33528.00	29592.00	0.88
BLACK MARLIN	867.00	952.00	1.10
STRIPED MARLIN	1632.00	3448.00	2.11
SHORTNOSE SPEARFISH	578.00	1096.00	1.90
SAILFISH	191.00	342.00	1.79
SPINY LOBSTER	52849.00	428630.00	8.11
SLIPPER LOBSTER	16419.00	87825.00	5.35
CRABS	1222.00	4099.00	3.35
OCTOPUS	2126.00	4936.00	2.32
SQUID	1881.00	3245.00	1.73
LIMPETS (SALTWATER)	1349.00	3467.00	2.57
STONEY CORALS	400.00	500.00	1.25
ALGAE	718.00	1242.00	1.73
** SUBTOTAL **	1126708.00	1910451.00	

Table V.1.11

HAWAII SEPTEMBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1075.00	1993.00	1.85
SHARKS	30.00	23.00	0.77
EELS	5.00	2.00	0.40
BIGEYE SCAD (AKULE)	8942.00	17373.00	1.94
MACKEREL SCAD	28619.00	45099.00	1.58
LEATHERBACK	38.00	25.00	0.66
TEN POUNDER	107.00	98.00	0.92
BONEFISH	1234.00	1276.00	1.03
MILKFISH	99.00	159.00	1.61
NEEDLEFISH	24.00	27.00	1.13
THREADFIN	41.00	109.00	2.66
MULLET	348.00	963.00	2.77
POMFRET	806.00	874.00	1.08
SNAKE MACKEREL	86.00	12.00	0.14
JACKS (MISC.)	4288.00	7758.00	1.81
AMBERJACK	1881.00	1187.00	0.63
BLUE CREVALLY	755.00	1134.00	1.50
PIG-LIPPED ULUA	6194.00	4417.00	0.71
DOBE ULUA	6.00	8.00	1.33
PAAPAA ULUA	125.00	228.00	1.82
WHITE ULUA	1556.00	3115.00	2.00
BLACK ULUA	32.00	36.00	1.13
GIANT SEA BASS	7694.00	11958.00	1.55
BLUE SPOT GROUPER	34.00	58.00	1.71
SNAPPERS	905.00	974.00	1.08
BLUE LINED SNAPPER	3125.00	2677.00	0.86
EHU (RED SNAPPER)	5048.00	11941.00	2.37
GINDAI (FLOWER SNAP)	648.00	1201.00	1.85
KALIKALI (PINK SNAP)	2663.00	4974.00	1.87
LEHI (SILVERJAW)	2847.00	7085.00	2.49
ONAGA (RED SNAPPER)	24848.00	69890.00	2.81
OPAKAPAKA (PINK SNP)	22751.00	66944.00	2.94
UKU (GRAY SNAPPER)	4290.00	11145.00	2.60
PORGY	53.00	114.00	2.15
REEF JACKS	1.00	2.00	2.00
SQUIRRELFISH	3653.00	7441.00	2.04
TRUMPETFISH	6.00	2.00	0.33
SCORPIONFISH	412.00	798.00	1.94
MOUNTAIN BASS	129.00	300.00	2.33
BIGEYES	431.00	627.00	1.45
GOATFISH	2626.00	5900.00	2.25
RUDDERFISH	454.00	321.00	0.71
DAMSELFISH	109.00	136.00	1.25
HAWKFISH	29.00	30.00	1.03

Table V.1.11 (Cont.)

HAWAII SEPTEMBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
TILAPIA	363.00	1057.00	2.91
WRASSE	642.00	1228.00	1.91
PARROTFISH	2908.00	3449.00	1.19
GOBIES	52.00	286.00	5.50
SURGEON/TANGS	3674.00	2911.00	0.79
FLOUNDERS	3.00	2.00	0.67
TRIGGERFISH	23.00	90.00	3.91
FILEFISH	3.00	0.25	0.08
RAINBOW RUNNER	339.00	321.00	0.95
DOLPHIN (MAHIMAHI)	35305.00	84734.00	2.40
BARRACUDAS	646.00	917.00	1.42
WAHOO	35962.00	86491.00	2.41
SKIPJACK TUNA	268132.00	302670.00	1.13
YELLOWFIN TUNA	311909.00	361868.00	1.16
ALBACORE	4761.00	4878.00	1.02
BIGEYE TUNA	3574.00	6717.00	1.88
KAWAKAWA	55.00	46.00	0.84
BROADBILL SWORDFISH	532.00	1215.00	2.28
BLUE MARLIN	35696.00	33373.00	0.93
BLACK MARLIN	1448.00	1749.00	1.21
STRIPED MARLIN	1314.00	2020.00	1.54
SHORTNOSE SPEARFISH	226.00	474.00	2.10
SAILFISH	224.00	412.00	1.84
SPINY LOBSTER	42748.00	340843.00	7.97
SLIPPER LOBSTER	11151.00	60211.00	5.40
CRABS	8262.00	27587.00	3.34
SHRIMP (FRESHWATER)	10.00	140.00	14.00
OCTOPUS	2739.00	6120.00	2.23
SQUID	2570.00	3196.00	1.24
LIMPETS (SALTWATER)	402.00	1018.00	2.53
STONEY CORALS	500.00	500.00	1.00
SEA CUCUMBERS	32.00	80.00	2.50
ALGAE	725.00	1180.00	1.63
** SUBTOTAL **	915977.00	1628217.25	

Table V.1.12

HAWAII OCTOBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1165.00	2186.00	1.88
SHARKS	263.00	319.00	1.21
ALFONSIN	7.00	10.00	1.43
BIGEYE SCAD (AKULE)	12070.00	22637.00	1.88
MACKEREL SCAD	22797.00	39479.00	1.73
LEATHERBACK	17.00	13.00	0.76
TEN POUNDER	56.00	49.00	0.88
BONEFISH	1632.00	1640.00	1.00
MILKFISH	66.00	100.00	1.52
NEEDLEFISH	68.00	57.00	0.84
THREADFIN	23.00	69.00	3.00
MULLET	846.00	2405.00	2.84
POMFRET	277.00	911.00	3.29
SNAKE MACKEREL	26.00	21.00	0.81
JACKS (MISC.)	4119.00	7061.00	1.71
AMBERJACK	953.00	508.00	0.53
BLUE CREVALLY	454.00	741.00	1.63
PIG-LIPPED ULUA	2853.00	2348.00	0.82
DOBE ULUA	20.00	13.00	0.65
PAAPAA ULUA	365.00	563.00	1.54
WHITE ULUA	2060.00	3406.00	1.65
BLACK ULUA	24.00	27.00	1.13
GIANT SEA BASS	6033.00	9477.00	1.57
BLUE SPOT GROUPER	17.00	21.00	1.24
SNAPPERS	231.00	603.00	2.61
BLUE LINED SNAPPER	3346.00	2969.00	0.89
EHU (RED SNAPPER)	5722.00	15201.00	2.66
GINDAI (FLOWER SNAP)	700.00	1483.00	2.12
KALIKALI (PINK SNAP)	1589.00	3393.00	2.14
LEHI (SILVERJAW)	2912.00	7541.00	2.59
ONAGA (RED SNAPPER)	15481.00	54125.00	3.50
OPAKAPAKA (PINK SNP)	17366.00	59101.00	3.40
UKU (GRAY SNAPPER)	2624.00	7021.00	2.68
PORGY	107.00	199.00	1.86
SQUIRRELFISH	2804.00	6372.00	2.27
TRUMPETFISH	24.00	30.00	1.25
SCORPIONFISH	342.00	838.00	2.45
MOUNTAIN BASS	264.00	571.00	2.16
BIGEYES	289.00	472.00	1.63
GOATFISH	4206.00	7803.00	1.86
RUDDERFISH	529.00	412.00	0.78
DAMSELFISH	148.00	242.00	1.64
HAWKFISH	81.00	101.00	1.25
TILAPIA	216.00	566.00	2.62

Table V.1.12 (Cont.)

HAWAII OCTOBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
WRASSE	591.00	1015.00	1.72
PARROTFISH	2887.00	3403.00	1.18
GOBIES	740.00	740.00	1.00
SURGEON/TANGS	2143.00	1874.00	0.87
FLOUNDERS	3.00	2.00	0.67
FILEFISH	31.00	9.00	0.29
RAINBOW RUNNER	667.00	679.00	1.02
DOLPHIN (MAHIMAHI)	35200.00	106226.00	3.02
BARRACUDAS	894.00	1254.00	1.40
WAHOO	20895.00	53923.00	2.58
SKIPJACK TUNA	57059.00	66492.00	1.17
YELLOWFIN TUNA	199077.00	319275.00	1.60
ALBACORE	3519.00	4033.00	1.15
BIGEYE TUNA	11296.00	21409.00	1.90
KAWAKAWA	256.00	281.00	1.10
BROADBILL SWORDFISH	141.00	341.00	2.42
BLUE MARLIN	19943.00	21540.00	1.08
BLACK MARLIN	953.00	2006.00	2.10
STRIPED MARLIN	685.00	1696.00	2.48
SHORTNOSE SPEARFISH	1283.00	2569.00	2.00
SAILFISH	69.00	116.00	1.68
SPINY LOBSTER	26298.00	188515.00	7.17
SLIPPER LOBSTER	18807.00	102548.00	5.45
CRABS	5093.00	17621.00	3.46
SHRIMP (FRESHWATER)	10.00	40.00	4.00
OCTOPUS	2344.00	5075.00	2.17
SQUID	917.00	1386.00	1.51
LIMPETS (SALTWATER)	129.00	428.00	3.32
STONEY CORALS	200.00	200.00	1.00
PRECIOUS CORALS	58.00	812.00	14.00
ALGAE	642.00	1593.00	2.48
** SUBTOTAL **	528022.00	1190205.00	

Table V.1.13

HAWAII NOVEMBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	835.00	1560.00	1.87
SHARKS	453.00	697.00	1.54
EELS	81.00	52.00	0.64
ALFONSIN	133.00	172.00	1.29
BIGEYE SCAD (AKULE)	8261.00	16419.00	1.99
MACKEREL SCAD	12538.00	23732.00	1.89
LEATHERBACK	48.00	87.00	1.81
TEN POUNDER	56.00	44.00	0.79
BONEFISH	2281.00	2388.00	1.05
HERRING/SARDINE	22.00	27.00	1.23
MILKFISH	135.00	202.00	1.50
NEEDLEFISH	660.00	1765.00	2.67
THREADFIN	156.00	455.00	2.92
MULLET	1332.00	3552.00	2.67
POMFRET	1223.00	1821.00	1.49
JACKS (MISC.)	7170.00	11720.00	1.63
AMBERJACK	3031.00	1562.00	0.52
BLUE CREVALLY	573.00	1024.00	1.79
PIG-LIPPED ULUA	8478.00	8264.00	0.97
DOBE ULUA	63.00	87.00	1.38
PAAPAA ULUA	1432.00	1848.00	1.29
WHITE ULUA	11687.00	9391.00	0.80
BLACK ULUA	917.00	721.00	0.79
GIANT SEA BASS	11270.00	20827.00	1.85
BLUE SPOT GROUPER	68.00	187.00	2.75
SNAPPERS	231.00	596.00	2.58
BLUE LINED SNAPPER	4638.00	3804.00	0.82
EHU (RED SNAPPER)	10003.00	24795.00	2.48
GINDAI (FLOWER SNAP)	1004.00	2126.00	2.12
KALIKALI (PINK SNAP)	4220.00	8202.00	1.94
LEHI (SILVERJAW)	4930.00	13059.00	2.65
ONAGA (RED SNAPPER)	36611.00	125018.00	3.41
OPAKAPAKA (PINK SNP)	48951.00	149953.00	3.06
UKU (GRAY SNAPPER)	2569.00	7430.00	2.89
PORGY	94.00	212.00	2.26
REEF JACKS	3.00	8.00	2.67
SQUIRRELFISH	3398.00	7949.00	2.34
TRUMPETFISH	33.00	19.00	0.58
SCORPIONFISH	415.00	974.00	2.35
MOUNTAIN BASS	293.00	551.00	1.88
BIGEYES	490.00	617.00	1.26
CARDINALFISH	2.00	4.00	2.00
GOATFISH	4427.00	8724.50	1.97
RUDDERFISH	727.00	609.00	0.84

Table V.1.13 (Cont.)

HAWAII NOVEMBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
BUTTERFLYFISH	37.00	28.00	0.76
DAMSELFISH	88.00	82.00	0.93
HAWKFISH	123.00	167.00	1.36
TILAPIA	298.00	689.00	2.31
WRASSE	789.00	1644.00	2.08
PARROTFISH	2293.00	2818.00	1.23
SURGEON/TANGS	3619.00	3322.40	0.92
TRIGGERFISH	2.00	6.00	3.00
FILEFISH	4.00	1.00	0.25
RAINBOW RUNNER	291.00	308.00	1.06
DOLPHIN (MAHIMAHI)	27088.00	88064.00	3.25
BARRACUDAS	2016.00	2247.00	1.11
WAHOO	16024.00	50906.00	3.18
SKIPJACK TUNA	18279.00	19218.00	1.05
YELLOWFIN TUNA	222245.00	343809.00	1.55
ALBACORE	1541.00	3090.00	2.01
BIGEYE TUNA	2644.00	8851.00	3.35
KAWAKAWA	316.00	303.00	0.96
BROADBILL SWORDFISH	56.00	124.00	2.21
BLUE MARLIN	7431.00	13875.00	1.87
BLACK MARLIN	128.00	301.00	2.35
STRIPED MARLIN	2450.00	6689.00	2.73
SHORTNOSE SPEARFISH	425.00	1109.00	2.61
SAILFISH	78.00	230.00	2.95
OCEAN MOONFISH	1450.00	1592.00	1.10
SPINY LOBSTER	68140.00	498660.00	7.32
SLIPPER LOBSTER	41774.00	234369.00	5.61
CRABS	3246.00	11996.00	3.70
SHRIMP (FRESHWATER)	37.00	330.00	8.92
OCTOPUS	1457.00	3241.00	2.22
SQUID	212.00	516.00	2.43
LIMPETS (SALTWATER)	356.00	869.00	2.44
STONEY CORALS	777.00	528.00	0.68
SEA CUCUMBERS	24.00	60.00	2.50
ALGAE	961.00	2298.00	2.39
** SUBTOTAL **	622641.00	1765594.90	

Table V.1.14

HAWAII DECEMBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	833.00	1462.00	1.76
SHARKS	2425.00	3318.00	1.37
EELS	48.00	17.00	0.35
ALFONSIN	13.00	17.00	1.31
BIGEYE SCAD (AKULE)	21421.00	27894.00	1.30
MACKEREL SCAD	21882.00	37851.00	1.73
LEATHERBACK	9.00	7.00	0.78
TEN POUNDER	3.00	2.00	0.67
BONEFISH	2303.00	2341.00	1.02
HERRING/SARDINE	1.00	1.00	1.00
NEEDLEFISH	99.00	130.00	1.31
THREADFIN	85.00	234.00	2.75
MULLET	388.00	1050.00	2.71
POMFRET	1728.00	2433.00	1.41
SNAKE MACKEREL	63.00	16.00	0.25
JACKS (MISC.)	6434.00	13746.00	2.14
AMBERJACK	2524.00	1393.00	0.55
BLUE CREVALLY	245.00	463.00	1.89
PIG-LIPPED ULUA	7646.00	7316.00	0.96
DOBE ULUA	508.00	1226.00	2.41
PAAPAA ULUA	330.00	594.00	1.80
WHITE ULUA	264.00	452.00	1.71
BLACK ULUA	131.00	205.00	1.56
GIANT SEA BASS	8089.00	14344.00	1.77
BLUE SPOT GROUPER	38.00	65.00	1.71
SNAPPERS	410.00	552.00	1.35
BLUE LINED SNAPPER	4653.00	3316.00	0.71
EHU (RED SNAPPER)	10945.00	33351.00	3.05
GINDAI (FLOWER SNAP)	659.00	1494.00	2.27
KALIKALI (PINK SNAP)	4625.00	8531.00	1.84
LEHI (SILVERJAW)	5682.00	14734.00	2.59
ONAGA (RED SNAPPER)	41421.00	146420.00	3.53
OPAKAPAKA (PINK SNP)	43653.00	124637.00	2.86
UKU (GRAY SNAPPER)	6086.00	16832.00	2.77
PORGY	240.00	467.00	1.95
SQUIRRELFISH	5123.00	12254.00	2.39
TRUMPETFISH	5.00	3.00	0.60
SCORPIONFISH	448.00	983.00	2.19
MOUNTAIN BASS	160.00	305.00	1.91
BIGEYES	498.00	653.00	1.31
GOATFISH	6302.00	14279.00	2.27
RUDDERFISH	1086.00	691.00	0.64
BUTTERFLYFISH	16.00	8.00	0.50
DAMSELFISH	148.00	187.00	1.26

Table V.1.14 (Cont.)

HAWAII DECEMBER 1985 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
HAWKFISH	249.00	402.00	1.61
TILAPIA	83.00	246.00	2.96
WRASSE	467.00	768.00	1.64
PARROTFISH	1859.00	2264.00	1.22
SURGEON/TANGS	5373.00	3547.00	0.66
FLOUNDERS	2.00	2.00	1.00
TRIGGERFISH	3.00	12.00	4.00
FILEFISH	56.00	10.00	0.18
RAINBOW RUNNER	235.00	360.00	1.53
DOLPHIN (MAHIMAHI)	16670.00	54430.00	3.27
BARRACUDAS	857.00	973.00	1.14
WAHOO	17678.00	55535.00	3.14
JAPANESE MACKEREL	31.00	8.00	0.26
TUNAS	18.00	18.00	1.00
SKIPJACK TUNA	19143.00	21659.00	1.13
YELLOWFIN TUNA	95948.00	190442.00	1.98
ALBACORE	1386.00	2979.00	2.15
BIGEYE TUNA	21647.00	87291.00	4.03
KAWAKAWA	4905.00	4453.00	0.91
BROADBILL SWORDFISH	146.00	408.00	2.79
BLUE MARLIN	22341.00	32063.00	1.44
BLACK MARLIN	1407.00	1778.00	1.26
STRIPED MARLIN	2724.00	6854.00	2.52
SHORTNOSE SPEARFISH	987.00	2357.00	2.39
SAILFISH	29.00	18.00	0.62
OCEAN MOONFISH	1943.00	1515.00	0.78
SPINY LOBSTER	25874.00	183702.00	7.10
SLIPPER LOBSTER	14334.00	79639.00	5.56
CRABS	2197.00	7885.00	3.59
SHRIMP (FRESHWATER)	10.00	140.00	14.00
OCTOPUS	1819.00	4325.00	2.38
SQUID	226.00	361.00	1.60
LIMPETS (SALTWATER)	1185.00	3211.00	2.71
STONEY CORALS	825.00	340.00	0.41
ALGAE	1125.00	3510.00	3.12
** SUBTOTAL **	473452.00	1249779.00	
** TOTAL **	8104000.00	16765626.93	

Figure V.1.1

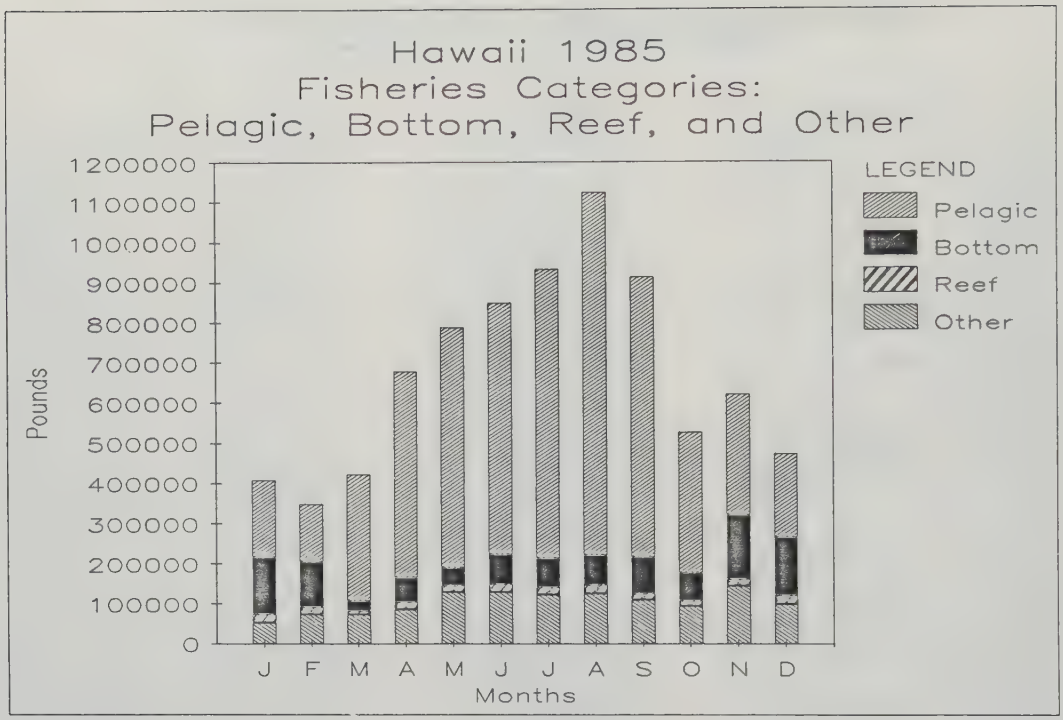

Figure V.1.2

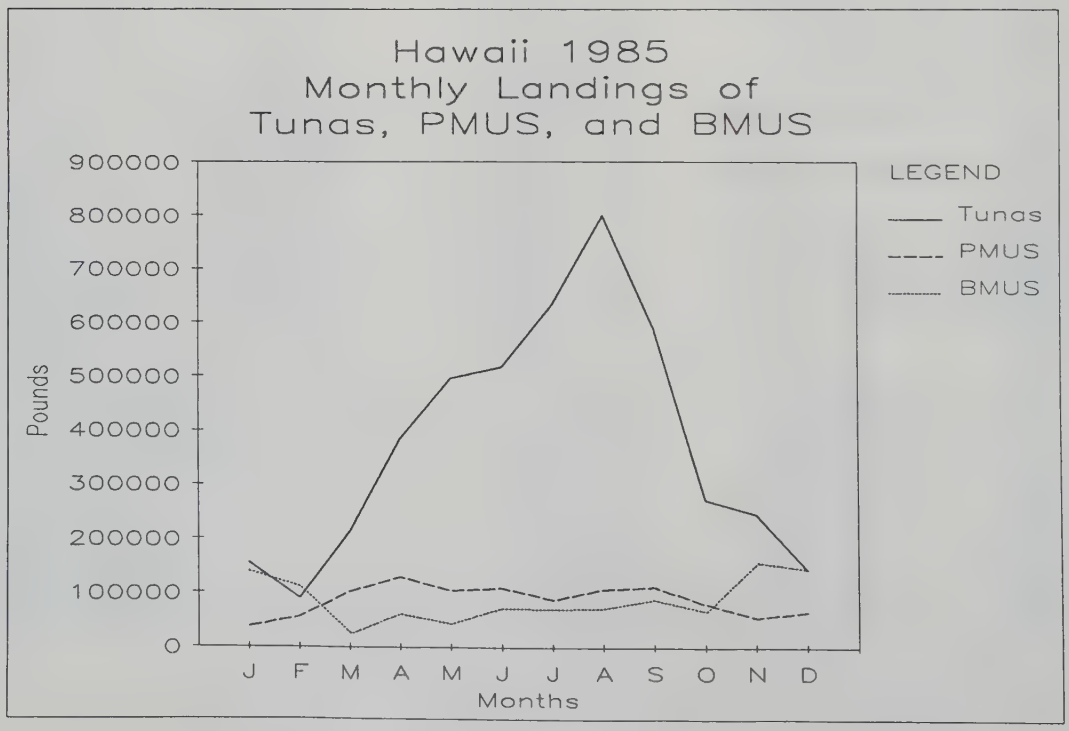

Figure V.1.3

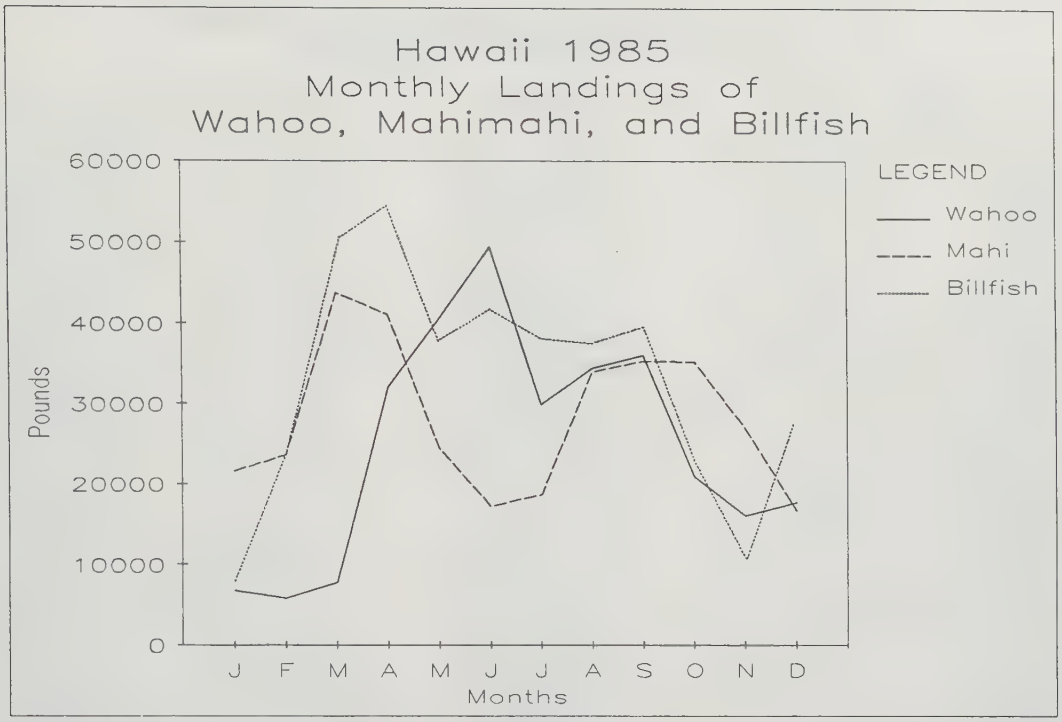

Figure V.1.4

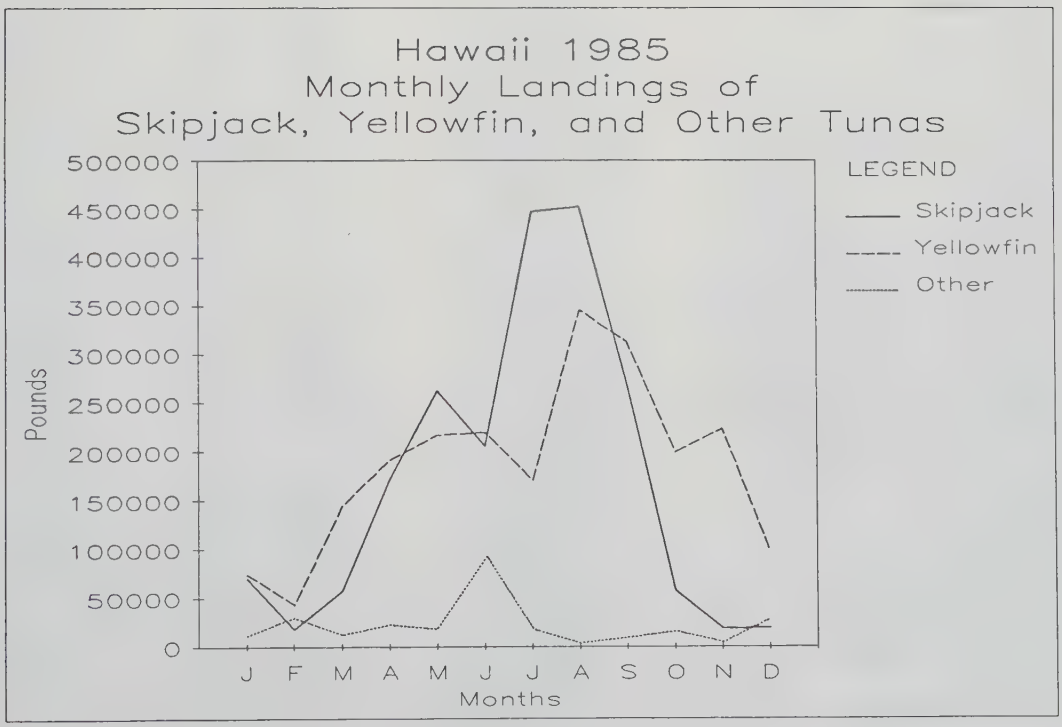

Table V.2.1

HAWAII 1986 ANNUAL COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	15999.00	31393.00	1.96
SHARKS	10288.00	12447.00	1.21
RAYS	340.00	140.00	0.41
EELS	763.00	449.15	0.59
ALFONSIN	89.00	226.00	2.54
BIGEYE SCAD (AKULE)	208349.00	359197.00	1.72
MACKEREL SCAD	339945.00	526979.00	1.55
LEATHERBACK	232.00	256.00	1.10
ANCHOVY	861.00	727.00	0.84
TEN POUNDER	489.00	486.00	0.99
BONEFISH	16087.00	15163.00	0.94
HERRING/SARDINE	24.00	37.00	1.54
MILKFISH	1136.00	1355.15	1.19
FLYING FISH	10.00	8.00	0.80
NEEDLEFISH	4928.00	4992.00	1.01
THREADFIN	2418.00	6128.00	2.53
MULLET	6857.00	18692.00	2.73
POMFRET	8413.00	13368.00	1.59
SNAKE MACKEREL	722.00	453.00	0.63
FRESHWATER FISH	2.00	2.00	1.00
JACKS (MISC.)	53224.00	86786.00	1.63
AMBERJACK	23360.00	12387.00	0.53
BLUE CREVALLY	12438.00	21730.00	1.75
PIG-LIPPED ULUA	70171.00	76684.00	1.09
DOBE ULUA	2186.00	2669.00	1.22
PAAPAA ULUA	9129.00	14438.00	1.58
WHITE ULUA	18313.00	35383.00	1.93
BLACK ULUA	523.00	550.00	1.05
GIANT SEA BASS	99199.00	159256.00	1.61
BLUE SPOT GROUPER	816.00	1605.00	1.97
SNAPPERS	5463.00	7234.00	1.32
BLUE LINED SNAPPER	49791.00	40682.00	0.82
EHU (RED SNAPPER)	56528.00	160008.00	2.83
GINDAI (FLOWER SNAP)	4916.00	10969.00	2.23
KALIKALI (PINK SNAP)	21859.00	43411.00	1.99
LEHI (SILVERJAW)	20771.00	57668.00	2.78
ONAGA (RED SNAPPER)	233123.00	859709.00	3.69
OPAKAPAKA (PINK SNP)	282536.00	903062.00	3.20
UKU (GRAY SNAPPER)	106750.00	290689.00	2.72
PORGY	1708.00	3151.00	1.84
REEF JACKS	86.00	242.00	2.81
SQUIRRELFISH	36855.00	85135.00	2.31
TRUMPETFISH	286.00	173.00	0.60
SCORPIONFISH	3588.00	8248.00	2.30
MOUNTAIN BASS	4496.00	9804.00	2.18
BIGEYES	9555.00	14993.00	1.57
CARDINALFISH	11.00	11.45	1.04

Table V.2.1 (Cont.)

HAWAII 1986 ANNUAL COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
GOATFISH	65071.00	130750.00	2.01
RUDDERFISH	12432.00	7519.00	0.60
DAMSELFISH	2069.00	2652.00	1.28
HAWKFISH	850.00	1125.00	1.32
TILAPIA	1304.00	4028.00	3.09
WRASSE	7511.00	14298.00	1.90
PARROTFISH	33568.00	44848.00	1.34
SURGEON/TANGS	72278.00	64009.80	0.89
FLOUNDERS	14.00	17.25	1.23
TRIGGERFISH	325.00	511.00	1.57
FILEFISH	401.00	244.00	0.61
PUFFERFISH	3.00	16.00	5.33
RAINBOW RUNNER	13743.00	12715.00	0.93
DOLPHIN (MAHIMAHI)	392368.00	1111339.00	2.83
BARRACUDAS	10543.00	13371.00	1.27
WAHOO	444963.00	1069360.00	2.40
JAPANESE MACKEREL	90.00	27.00	0.30
TUNAS	287.00	571.00	1.99
SKIPJACK TUNA	2268701.00	2265984.00	1.00
YELLOWFIN TUNA	3481545.00	4334252.00	1.24
ALBACORE	62097.00	96106.00	1.55
BIGEYE TUNA	275227.00	603595.00	2.19
KAWAKAWA	21643.00	27425.00	1.27
FRIGATE TUNA	250.00	218.00	0.87
BILLFISH	125.00	210.00	1.68
BROADBILL SWORDFISH	14632.00	41454.00	2.83
BLUE MARLIN	448271.00	374712.00	0.84
BLACK MARLIN	10343.00	8868.00	0.86
STRIPED MARLIN	102533.00	133719.00	1.30
SHORTNOSE SPEARFISH	19304.00	33926.00	1.76
SAILFISH	11733.00	11987.00	1.02
OCEAN MOONFISH	25787.00	33439.00	1.30
SPINY LOBSTER	363459.00	2981198.00	8.20
SLIPPER LOBSTER	316819.00	1832347.00	5.78
CRABS	33221.00	114216.00	3.44
SHRIMP (FRESHWATER)	1231.00	5338.00	4.34
SHRIMP (SALTWATER)	170.00	939.00	5.52
OCTOPUS	34007.00	72726.00	2.14
SQUID	3453.00	4633.00	1.34
LIMPETS (SALTWATER)	12331.00	33559.00	2.72
LIMPETS (FRESHWATER)	1598.00	3187.00	1.99
STONEY CORALS	16225.00	17546.00	1.08
PRECIOUS CORALS	935.00	13413.00	14.35
SEA CUCUMBERS	16.00	50.00	3.13
ALGAE	13307.00	33165.00	2.49
** TOTAL **	10342416.00	19454788.80	

Table V.2.2

HAWAII 1986 COMMERCIAL LANDINGS NOT SOLD

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	370.00	0.00	0.00
SHARKS	2555.00	0.00	0.00
EELS	72.00	0.00	0.00
ALFONSIN	30.00	0.00	0.00
BIGEYE SCAD (AKULE)	14046.00	0.00	0.00
MACKEREL SCAD	12954.00	0.00	0.00
LEATHERBACK	34.00	0.00	0.00
ANCHOVY	30.00	0.00	0.00
TEN POUNDER	87.00	0.00	0.00
BONEFISH	1026.00	0.00	0.00
HERRING/SARDINE	2.00	0.00	0.00
MILKFISH	62.00	0.00	0.00
NEEDLEFISH	107.00	0.00	0.00
THREADFIN	68.00	0.00	0.00
MULLET	935.00	0.00	0.00
POMFRET	60.00	0.00	0.00
SNAKE MACKEREL	300.00	0.00	0.00
JACKS (MISC.)	4590.00	0.00	0.00
AMBERJACK	14850.00	0.00	0.00
BLUE CREVALLY	498.00	0.00	0.00
PIG-LIPPED ULUA	448.00	0.00	0.00
DOBE ULUA	77.00	0.00	0.00
PAAPAA ULUA	108.00	0.00	0.00
WHITE ULUA	471.00	0.00	0.00
GIANT SEA BASS	818.00	0.00	0.00
BLUE SPOT GROUPER	11.00	0.00	0.00
SNAPPERS	195.00	0.00	0.00
BLUE LINED SNAPPER	2759.00	0.00	0.00
EHU (RED SNAPPER)	3154.00	0.00	0.00
GINDAI (FLOWER SNAP)	229.00	0.00	0.00
KALIKALI (PINK SNAP)	1317.00	0.00	0.00
LEHI (SILVERJAW)	1452.00	0.00	0.00
ONAGA (RED SNAPPER)	4267.00	0.00	0.00
OPAKAPAKA (PINK SNP)	16712.00	0.00	0.00
UKU (GRAY SNAPPER)	2028.00	0.00	0.00
PORGY	57.00	0.00	0.00
SQUIRRELFISH	2294.00	0.00	0.00
TRUMPETFISH	116.00	0.00	0.00
SCORPIONFISH	233.00	0.00	0.00
MOUNTAIN BASS	362.00	0.00	0.00
BIGEYES	594.00	0.00	0.00
CARDINALFISH	1.00	0.00	0.00
GOATFISH	2044.00	0.00	0.00
RUDDERFISH	818.00	0.00	0.00

Table V.2.2 (Cont.)

HAWAII 1986 COMMERCIAL LANDINGS NOT SOLD

SPECIES	POUNDS	VALUE	AVE $/#
DAMSELFISH	6.00	0.00	0.00
HAWKFISH	19.00	0.00	0.00
TILAPIA	77.00	0.00	0.00
WRASSE	776.00	0.00	0.00
PARROTFISH	1124.00	0.00	0.00
SURGEON/TANGS	2783.00	0.00	0.00
TRIGGERFISH	127.00	0.00	0.00
FILEFISH	1.00	0.00	0.00
PUFFERFISH	30.00	0.00	0.00
RAINBOW RUNNER	570.00	0.00	0.00
DOLPHIN (MAHIMAHI)	22366.00	0.00	0.00
BARRACUDAS	1376.00	0.00	0.00
WAHOO	25799.00	0.00	0.00
JAPANESE MACKEREL	12.00	0.00	0.00
TUNAS	1730.00	0.00	0.00
SKIPJACK TUNA	69561.00	0.00	0.00
YELLOWFIN TUNA	168919.00	0.00	0.00
ALBACORE	162.00	0.00	0.00
BIGEYE TUNA	3306.00	0.00	0.00
KAWAKAWA	2500.00	0.00	0.00
FRIGATE TUNA	19.00	0.00	0.00
BROADBILL SWORDFISH	107.00	0.00	0.00
BLUE MARLIN	35718.00	0.00	0.00
BLACK MARLIN	814.00	0.00	0.00
STRIPED MARLIN	4072.00	0.00	0.00
SHORTNOSE SPEARFISH	2420.00	0.00	0.00
SAILFISH	149.00	0.00	0.00
SPINY LOBSTER	3226.00	0.00	0.00
SLIPPER LOBSTER	301.00	0.00	0.00
CRABS	3229.00	0.00	0.00
SHRIMP (FRESHWATER)	117.00	0.00	0.00
OCTOPUS	7961.00	0.00	0.00
SQUID	793.00	0.00	0.00
LIMPETS (SALTWATER)	1560.00	0.00	0.00
LIMPETS (FRESHWATER)	330.00	0.00	0.00
STONEY CORALS	1685.00	0.00	0.00
SEA URCHINS	187.00	0.00	0.00
ALGAE	313.00	0.00	0.00
** TOTAL **	457486.00	0.00	

Table V.2.3

HAWAII JANUARY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	691.00	1482.00	2.14
SHARKS	2091.00	3123.00	1.49
EELS	122.00	72.00	0.59
BIGEYE SCAD (AKULE)	8086.00	20726.00	2.56
MACKEREL SCAD	15482.00	28617.00	1.85
LEATHERBACK	14.00	7.00	0.50
ANCHOVY	7.00	6.00	0.86
TEN POUNDER	69.00	113.00	1.64
BONEFISH	2601.00	2522.00	0.97
HERRING/SARDINE	4.00	4.00	1.00
MILKFISH	47.00	58.00	1.23
NEEDLEFISH	17.00	13.00	0.76
THREADFIN	116.00	307.00	2.65
MULLET	237.00	678.00	2.86
POMFRET	793.00	1392.00	1.76
SNAKE MACKEREL	71.00	52.00	0.73
JACKS (MISC.)	5453.00	9276.00	1.70
AMBERJACK	3480.00	1407.00	0.40
BLUE CREVALLY	260.00	507.00	1.95
PIG-LIPPED ULUA	10030.00	11896.00	1.19
DOBE ULUA	916.00	1172.00	1.28
PAAPAA ULUA	1081.00	1239.00	1.15
WHITE ULUA	1630.00	5121.00	3.14
BLACK ULUA	10.00	25.00	2.50
GIANT SEA BASS	11692.00	19918.00	1.70
BLUE SPOT GROUPER	69.00	125.00	1.81
SNAPPERS	105.00	327.00	3.11
BLUE LINED SNAPPER	4044.00	3689.00	0.91
EHU (RED SNAPPER)	9386.00	26028.00	2.77
GINDAI (FLOWER SNAP)	531.00	1373.00	2.59
KALIKALI (PINK SNAP)	3544.00	7009.00	1.98
LEHI (SILVERJAW)	2249.00	6791.00	3.02
ONAGA (RED SNAPPER)	37399.00	141157.00	3.77
OPAKAPAKA (PINK SNP)	35988.00	120267.00	3.34
UKU (GRAY SNAPPER)	6311.00	18819.00	2.98
PORGY	67.00	141.00	2.10
SQUIRRELFISH	4093.00	12150.00	2.97
TRUMPETFISH	4.00	2.00	0.50
SCORPIONFISH	420.00	1146.00	2.73
MOUNTAIN BASS	427.00	951.00	2.23
BIGEYES	807.00	1188.00	1.47
GOATFISH	7251.00	13764.00	1.90
RUDDERFISH	549.00	440.00	0.80
DAMSELFISH	103.00	154.00	1.50

Table V.2.3 (Cont.)

HAWAII JANUARY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
HAWKFISH	41.00	54.00	1.32
TILAPIA	94.00	198.00	2.11
WRASSE	779.00	1859.00	2.39
PARROTFISH	2529.00	3150.00	1.25
SURGEON/TANGS	5131.00	4358.00	0.85
FLOUNDERS	2.00	2.00	1.00
TRIGGERFISH	50.00	27.00	0.54
FILEFISH	12.00	1.00	0.08
RAINBOW RUNNER	634.00	949.00	1.50
DOLPHIN (MAHIMAHI)	20177.00	73184.00	3.63
BARRACUDAS	813.00	930.00	1.14
WAHOO	14669.00	53149.00	3.62
JAPANESE MACKEREL	75.00	3.00	0.04
SKIPJACK TUNA	20950.00	28031.00	1.34
YELLOWFIN TUNA	99026.00	205487.00	2.08
ALBACORE	121.00	373.00	3.08
BIGEYE TUNA	27715.00	103534.00	3.74
KAWAKAWA	10146.00	13906.00	1.37
FRIGATE TUNA	250.00	218.00	0.87
BILLFISH	18.00	60.00	3.33
BLUE MARLIN	21516.00	31941.00	1.48
BLACK MARLIN	363.00	254.00	0.70
STRIPED MARLIN	1386.00	4476.00	3.23
SHORTNOSE SPEARFISH	1516.00	3647.00	2.41
OCEAN MOONFISH	4719.00	5462.00	1.16
SPINY LOBSTER	26174.00	195735.00	7.48
SLIPPER LOBSTER	10007.00	61254.00	6.12
CRABS	2302.00	9276.00	4.03
OCTOPUS	1066.00	2306.00	2.16
LIMPETS (SALTWATER)	910.00	2332.00	2.56
STONEY CORALS	2102.00	1066.00	0.51
ALGAE	1432.00	3508.00	2.45
** SUBTOTAL **	455072.00	1275984.00	

Table V.2.4

HAWAII FEBRUARY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	858.00	1533.00	1.79
SHARKS	279.00	258.00	0.92
EELS	20.00	6.00	0.30
BIGEYE SCAD (AKULE)	15490.00	30685.00	1.98
MACKEREL SCAD	11833.00	21915.00	1.85
LEATHERBACK	23.00	29.00	1.26
ANCHOVY	854.00	721.00	0.84
TEN POUNDER	39.00	33.00	0.85
BONEFISH	484.00	469.00	0.97
MILKFISH	148.00	144.00	0.97
NEEDLEFISH	16.00	5.00	0.31
THREADFIN	69.00	321.00	4.65
MULLET	192.00	506.00	2.64
POMFRET	494.00	758.00	1.53
SNAKE MACKEREL	400.00	215.00	0.54
FRESHWATER FISH	2.00	2.00	1.00
JACKS (MISC.)	1802.00	2811.00	1.56
AMBERJACK	3782.00	1857.00	0.49
BLUE CREVALLY	101.00	229.00	2.27
PIG-LIPPED ULUA	4954.00	5784.00	1.17
DOBE ULUA	161.00	245.00	1.52
PAAPAA ULUA	181.00	324.00	1.79
WHITE ULUA	846.00	1431.00	1.69
BLACK ULUA	2.00	3.00	1.50
GIANT SEA BASS	9856.00	16818.00	1.71
BLUE SPOT GROUPER	88.00	161.00	1.83
SNAPPERS	63.00	133.00	2.11
BLUE LINED SNAPPER	4159.00	3382.00	0.81
EHU (RED SNAPPER)	6644.00	18674.00	2.81
GINDAI (FLOWER SNAP)	337.00	971.00	2.88
KALIKALI (PINK SNAP)	1809.00	3945.00	2.18
LEHI (SILVERJAW)	1835.00	5713.00	3.11
ONAGA (RED SNAPPER)	12985.00	54193.00	4.17
OPAKAPAKA (PINK SNP)	20468.00	73688.00	3.60
UKU (GRAY SNAPPER)	7726.00	15985.00	2.07
PORGY	168.00	274.00	1.63
SQUIRRELFISH	4773.00	12787.00	2.68
TRUMPETFISH	6.00	4.00	0.67
SCORPIONFISH	258.00	606.00	2.35
MOUNTAIN BASS	103.00	158.00	1.53
BIGEYES	584.00	724.00	1.24
GOATFISH	5038.00	10412.00	2.07
DAMSELFISH	83.00	95.00	1.14
HAWKFISH	79.00	100.00	1.27

Table V.2.4 (Cont.)

HAWAII FEBRUARY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
TILAPIA	151.00	388.00	2.57
WRASSE	736.00	1555.00	2.11
PARROTFISH	93.00	104.00	1.12
SURGEON/TANGS	4513.00	4175.00	0.93
TRIGGERFISH	16.00	24.00	1.50
FILEFISH	85.00	51.00	0.60
RAINBOW RUNNER	87.00	125.00	1.44
DOLPHIN (MAHIMAHI)	36134.00	116495.00	3.22
BARRACUDAS	1175.00	1207.00	1.03
WAHOO	19863.00	70580.00	3.55
JAPANESE MACKEREL	8.00	18.00	2.25
TUNAS	170.00	173.00	1.02
SKIPJACK TUNA	46569.00	58108.00	1.25
YELLOWFIN TUNA	125465.00	244444.00	1.95
ALBACORE	386.00	998.00	2.59
BIGEYE TUNA	28208.00	64894.00	2.30
KAWAKAWA	6189.00	7520.00	1.22
BROADBILL SWORDFISH	230.00	785.00	3.41
BLUE MARLIN	20085.00	25510.00	1.27
BLACK MARLIN	1020.00	675.00	0.66
STRIPED MARLIN	1458.00	4261.00	2.92
SHORTNOSE SPEARFISH	1748.00	4048.00	2.32
SAILFISH	53.00	114.00	2.15
OCEAN MOONFISH	4504.00	3528.00	0.78
SPINY LOBSTER	20425.00	162094.00	7.94
SLIPPER LOBSTER	21676.00	137958.00	6.36
CRABS	1359.00	5535.00	4.07
OCTOPUS	701.00	1547.00	2.21
LIMPETS (SALTWATER)	1308.00	3370.00	2.58
STONEY CORALS	2015.00	800.00	0.40
ALGAE	1707.00	2394.00	1.40
** SUBTOTAL **	468229.00	1212585.00	

Table V.2.5

HAWAII MARCH 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	816.00	1706.00	2.09
SHARKS	960.00	1530.00	1.59
RAYS	320.00	128.00	0.40
EELS	24.00	14.00	0.58
BIGEYE SCAD (AKULE)	15419.00	33735.00	2.19
MACKEREL SCAD	23639.00	39734.00	1.68
LEATHERBACK	5.00	2.00	0.40
TEN POUNDER	70.00	65.00	0.93
BONEFISH	587.00	602.00	1.03
HERRING/SARDINE	8.00	18.00	2.25
MILKFISH	1.00	0.15	0.15
FLYING FISH	1.00	1.00	1.00
NEEDLEFISH	70.00	106.00	1.51
THREADFIN	35.00	120.00	3.43
MULLET	590.00	1603.00	2.72
POMFRET	391.00	801.00	2.05
SNAKE MACKEREL	41.00	123.00	3.00
JACKS (MISC.)	2517.00	4895.00	1.94
AMBERJACK	3415.00	1644.00	0.48
BLUE CREVALLY	137.00	261.00	1.91
PIG-LIPPED ULUA	4440.00	5420.00	1.22
DOBE ULUA	14.00	15.00	1.07
PAAPAA ULUA	274.00	496.00	1.81
WHITE ULUA	322.00	774.00	2.40
GIANT SEA BASS	11990.00	19196.00	1.60
BLUE SPOT GROUPER	110.00	215.00	1.95
SNAPPERS	225.00	456.00	2.03
BLUE LINED SNAPPER	3436.00	2611.00	0.76
EHU (RED SNAPPER)	4030.00	13559.00	3.36
GINDAI (FLOWER SNAP)	357.00	883.00	2.47
KALIKALI (PINK SNAP)	1960.00	3871.00	1.98
LEHI (SILVERJAW)	1411.00	3939.00	2.79
ONAGA (RED SNAPPER)	7053.00	33867.00	4.80
OPAKAPAKA (PINK SNP)	19941.00	70456.00	3.53
UKU (GRAY SNAPPER)	2113.00	6588.00	3.12
PORGY	42.00	106.00	2.52
REEF JACKS	25.00	64.00	2.56
SQUIRRELFISH	3445.00	8526.00	2.47
TRUMPETFISH	32.00	17.00	0.53
SCORPIONFISH	191.00	413.00	2.16
MOUNTAIN BASS	286.00	607.00	2.12
BIGEYES	273.00	532.00	1.95
CARDINALFISH	5.00	7.00	1.40
GOATFISH	6232.00	12345.00	1.98

Table V.2.5 (Cont.)

HAWAII MARCH 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
RUDDERFISH	944.00	676.00	0.72
DAMSELFISH	160.00	239.00	1.49
HAWKFISH	83.00	114.00	1.37
TILAPIA	143.00	420.00	2.94
WRASSE	750.00	1278.00	1.70
PARROTFISH	3298.00	5010.00	1.52
SURGEON/TANGS	3453.00	3389.00	0.98
TRIGGERFISH	6.00	14.00	2.33
FILEFISH	100.00	14.00	0.14
RAINBOW RUNNER	231.00	233.00	1.01
DOLPHIN (MAHIMAHI)	67140.00	171784.00	2.56
BARRACUDAS	588.00	754.00	1.28
WAHOO	29548.00	92312.00	3.12
TUNAS	117.00	398.00	3.40
SKIPJACK TUNA	59871.00	55724.00	0.93
YELLOWFIN TUNA	156362.00	314453.00	2.01
ALBACORE	2200.00	5289.00	2.40
BIGEYE TUNA	24213.00	62741.00	2.59
KAWAKAWA	1534.00	1532.00	1.00
BROADBILL SWORDFISH	333.00	1124.00	3.38
BLUE MARLIN	32729.00	34668.00	1.06
BLACK MARLIN	894.00	966.00	1.08
STRIPED MARLIN	7008.00	12953.00	1.85
SHORTNOSE SPEARFISH	3927.00	7224.00	1.84
SAILFISH	25.00	62.00	2.48
OCEAN MOONFISH	527.00	798.00	1.51
SPINY LOBSTER	18877.00	150535.00	7.97
SLIPPER LOBSTER	62739.00	287186.00	4.58
CRABS	1579.00	5574.00	3.53
OCTOPUS	2716.00	5997.00	2.21
SQUID	21.00	10.00	0.48
LIMPETS (SALTWATER)	1241.00	3725.00	3.00
LIMPETS (FRESHWATER)	60.00	190.00	3.17
STONEY CORALS	1230.00	610.00	0.50
ALGAE	1717.00	2544.00	1.48
** SUBTOTAL **	603617.00	1502591.15	

Table V.2.6

HAWAII APRIL 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1300.00	2256.00	1.74
SHARKS	1013.00	932.00	0.92
EELS	11.00	5.00	0.45
BIGEYE SCAD (AKULE)	40323.00	57400.00	1.42
MACKEREL SCAD	14561.00	24473.00	1.68
LEATHERBACK	13.00	9.00	0.69
TEN POUNDER	44.00	46.00	1.05
BONEFISH	379.00	321.00	0.85
MILKFISH	56.00	65.00	1.16
NEEDLEFISH	634.00	841.00	1.33
THREADFIN	115.00	420.00	3.65
MULLET	416.00	1183.00	2.84
POMFRET	817.00	1333.00	1.63
SNAKE MACKEREL	63.00	27.00	0.43
JACKS (MISC.)	3194.00	7063.00	2.21
AMBERJACK	2318.00	1405.00	0.61
BLUE CREVALLY	687.00	1576.00	2.29
PIG-LIPPED ULUA	3417.00	4893.00	1.43
DOBE ULUA	273.00	346.00	1.27
PAAPAA ULUA	1227.00	2493.00	2.03
WHITE ULUA	294.00	670.00	2.28
BLACK ULUA	3.00	3.00	1.00
GIANT SEA BASS	3954.00	7133.00	1.80
BLUE SPOT GROUPER	53.00	103.00	1.94
SNAPPERS	312.00	370.00	1.19
BLUE LINED SNAPPER	1415.00	1140.00	0.81
EHU (RED SNAPPER)	2282.00	8315.00	3.64
GINDAI (FLOWER SNAP)	153.00	403.00	2.63
KALIKALI (PINK SNAP)	587.00	1501.00	2.56
LEHI (SILVERJAW)	343.00	1153.00	3.36
ONAGA (RED SNAPPER)	4116.00	20920.00	5.08
OPAKAPAKA (PINK SNP)	8638.00	33627.00	3.89
UKU (GRAY SNAPPER)	3576.00	12005.00	3.36
PORGY	14.00	19.00	1.36
REEF JACKS	59.00	174.00	2.95
SQUIRRELFISH	867.00	2059.00	2.37
SCORPIONFISH	133.00	376.00	2.83
MOUNTAIN BASS	285.00	490.00	1.72
BIGEYES	562.00	920.00	1.64
GOATFISH	7979.00	14832.00	1.86
RUDDERFISH	755.00	537.00	0.71
DAMSELFISH	39.00	50.00	1.28
HAWKFISH	41.00	57.00	1.39
TILAPIA	26.00	80.00	3.08

Table V.2.6 (Cont.)

HAWAII APRIL 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
WRASSE	260.00	298.00	1.15
PARROTFISH	3922.00	5349.00	1.36
SURGEON/TANGS	4222.00	4438.00	1.05
TRIGGERFISH	20.00	57.00	2.85
FILEFISH	58.00	69.00	1.19
RAINBOW RUNNER	745.00	714.00	0.96
DOLPHIN (MAHIMAHI)	41208.00	107728.00	2.61
BARRACUDAS	1375.00	1304.00	0.95
WAHOO	45261.00	104360.00	2.31
SKIPJACK TUNA	73384.00	71986.00	0.98
YELLOWFIN TUNA	237982.00	403275.00	1.69
ALBACORE	4397.00	8956.00	2.04
BIGEYE TUNA	17841.00	60591.00	3.40
KAWAKAWA	894.00	878.00	0.98
BROADBILL SWORDFISH	794.00	2125.00	2.68
BLUE MARLIN	22411.00	18640.00	0.83
STRIPED MARLIN	15161.00	20286.00	1.34
SHORTNOSE SPEARFISH	1450.00	1954.00	1.35
SAILFISH	3601.00	4068.00	1.13
OCEAN MOONFISH	1059.00	1509.00	1.42
SPINY LOBSTER	8975.00	71783.00	8.00
SLIPPER LOBSTER	13874.00	78906.00	5.69
CRABS	2424.00	9073.00	3.74
SHRIMP (FRESHWATER)	10.00	140.00	14.00
OCTOPUS	2417.00	4930.00	2.04
SQUID	24.00	68.00	2.83
LIMPETS (SALTWATER)	1056.00	2785.00	2.64
STONEY CORALS	1426.00	1489.00	1.04
ALGAE	2126.00	3336.00	1.57
** SUBTOTAL **	615724.00	1205119.00	

Table V.2.7

HAWAII MAY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1253.00	2159.00	1.72
SHARKS	1540.00	1567.00	1.02
EELS	79.00	38.15	0.48
BIGEYE SCAD (AKULE)	28090.00	48192.00	1.72
MACKEREL SCAD	17318.00	31208.00	1.80
LEATHERBACK	26.00	30.00	1.15
TEN POUNDER	61.00	72.00	1.18
BONEFISH	615.00	511.00	0.83
MILKFISH	64.00	63.00	0.98
FLYING FISH	3.00	2.00	0.67
NEEDLEFISH	952.00	1190.00	1.25
THREADFIN	455.00	1626.00	3.57
MULLET	296.00	780.00	2.64
POMFRET	1274.00	1946.00	1.53
JACKS (MISC.)	5256.00	9506.00	1.81
AMBERJACK	1849.00	879.00	0.48
BLUE CREVALLY	1693.00	3041.00	1.80
PIG-LIPPED ULUA	695.00	675.00	0.97
DOBE ULUA	92.00	59.00	0.64
PAAPAA ULUA	994.00	1935.00	1.95
WHITE ULUA	671.00	1365.00	2.03
GIANT SEA BASS	4222.00	6724.00	1.59
BLUE SPOT GROUPER	41.00	71.00	1.73
SNAPPERS	293.00	527.00	1.80
BLUE LINED SNAPPER	6402.00	5204.00	0.81
EHU (RED SNAPPER)	3840.00	11469.00	2.99
GINDAI (FLOWER SNAP)	332.00	999.00	3.01
KALIKALI (PINK SNAP)	1232.00	2799.00	2.27
LEHI (SILVERJAW)	311.00	747.00	2.40
ONAGA (RED SNAPPER)	9993.00	38102.00	3.81
OPAKAPAKA (PINK SNP)	10036.00	33730.00	3.36
UKU (GRAY SNAPPER)	14618.00	43587.00	2.98
PORGY	118.00	283.00	2.40
SQUIRRELFISH	2901.00	6755.00	2.33
TRUMPETFISH	12.00	13.00	1.08
SCORPIONFISH	194.00	454.00	2.34
MOUNTAIN BASS	451.00	1014.00	2.25
BIGEYES	1839.00	2748.00	1.49
GOATFISH	8952.00	15131.00	1.69
RUDDERFISH	1585.00	1106.00	0.70
DAMSELFISH	95.00	123.00	1.29
HAWKFISH	115.00	149.00	1.30
TILAPIA	9.00	11.00	1.22
WRASSE	463.00	848.00	1.83

Table V.2.7 (Cont.)

HAWAII MAY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
PARROTFISH	3185.00	4339.00	1.36
SURGEON/TANGS	8218.00	7122.00	0.87
TRIGGERFISH	7.00	14.00	2.00
FILEFISH	16.00	6.00	0.38
RAINBOW RUNNER	634.00	705.00	1.11
DOLPHIN (MAHIMAHI)	28177.00	81555.00	2.89
BARRACUDAS	1006.00	1350.00	1.34
WAHOO	64762.00	128699.00	1.99
SKIPJACK TUNA	310741.00	302026.00	0.97
YELLOWFIN TUNA	371796.00	469031.00	1.26
ALBACORE	13008.00	24965.00	1.92
BIGEYE TUNA	87548.00	75049.00	0.86
KAWAKAWA	358.00	311.00	0.87
BILLFISH	107.00	150.00	1.40
BROADBILL SWORDFISH	3135.00	9254.00	2.95
BLUE MARLIN	38466.00	27840.00	0.72
BLACK MARLIN	649.00	511.00	0.79
STRIPED MARLIN	35633.00	31130.00	0.87
SHORTNOSE SPEARFISH	2660.00	3816.00	1.43
SAILFISH	6310.00	4871.00	0.77
OCEAN MOONFISH	1591.00	2848.00	1.79
SPINY LOBSTER	20654.00	147536.00	7.14
SLIPPER LOBSTER	34174.00	205229.00	6.01
CRABS	4998.00	16160.00	3.23
SHRIMP (FRESHWATER)	15.00	275.00	18.33
OCTOPUS	2990.00	6213.00	2.08
SQUID	84.00	179.00	2.13
LIMPETS (SALTWATER)	2024.00	5494.00	2.71
STONEY CORALS	945.00	725.00	0.77
PRECIOUS CORALS	190.00	2850.00	15.00
ALGAE	1606.00	3882.00	2.42
** SUBTOTAL **	1177017.00	1843573.15	

Table V.2.8

HAWAII JUNE 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1456.00	3161.00	2.17
SHARKS	282.00	160.00	0.57
EELS	37.00	13.00	0.35
ALFONSIN	19.00	128.00	6.74
BIGEYE SCAD (AKULE)	21500.00	35624.00	1.66
MACKEREL SCAD	17292.00	29576.00	1.71
LEATHERBACK	10.00	10.00	1.00
TEN POUNDER	40.00	30.00	0.75
BONEFISH	4464.00	3584.00	0.80
HERRING/SARDINE	12.00	15.00	1.25
MILKFISH	161.00	128.00	0.80
FLYING FISH	3.00	3.00	1.00
NEEDLEFISH	180.00	320.00	1.78
THREADFIN	926.00	982.00	1.06
MULLET	417.00	1098.00	2.63
POMFRET	512.00	694.00	1.36
JACKS (MISC.)	3824.00	7428.00	1.94
AMBERJACK	1323.00	1988.00	1.50
BLUE CREVALLY	1250.00	2879.00	2.30
PIG-LIPPED ULUA	2100.00	2386.00	1.14
PAAPAA ULUA	94.00	227.00	2.41
WHITE ULUA	210.00	603.00	2.87
GIANT SEA BASS	4662.00	7088.00	1.52
BLUE SPOT GROUPER	58.00	116.00	2.00
SNAPPERS	1127.00	910.00	0.81
BLUE LINED SNAPPER	2892.00	2233.00	0.77
EHU (RED SNAPPER)	2565.00	9224.00	3.60
GINDAI (FLOWER SNAP)	223.00	580.00	2.60
KALIKALI (PINK SNAP)	521.00	1350.00	2.59
LEHI (SILVERJAW)	280.00	938.00	3.35
ONAGA (RED SNAPPER)	7228.00	28375.00	3.93
OPAKAPAKA (PINK SNP)	9653.00	31093.00	3.22
UKU (GRAY SNAPPER)	8945.00	28376.00	3.17
PORGY	126.00	202.00	1.60
SQUIRRELFISH	2721.00	6038.00	2.22
TRUMPETFISH	3.00	2.00	0.67
SCORPIONFISH	202.00	448.00	2.22
MOUNTAIN BASS	334.00	635.00	1.90
BIGEYES	618.00	1124.00	1.82
CARDINALFISH	1.00	2.00	2.00
GOATFISH	3888.00	8047.00	2.07
RUDDERFISH	761.00	568.00	0.75
DAMSELFISH	157.00	201.00	1.28
HAWKFISH	49.00	49.00	1.00

Table V.2.8 (Cont.)

HAWAII JUNE 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
TILAPIA	177.00	620.00	3.50
WRASSE	316.00	556.00	1.76
PARROTFISH	2205.00	3196.00	1.45
SURGEON/TANGS	4027.00	3745.35	0.93
TRIGGERFISH	58.00	80.00	1.38
FILEFISH	3.00	3.00	1.00
RAINBOW RUNNER	492.00	460.00	0.93
DOLPHIN (MAHIMAHI)	14079.00	53166.00	3.78
BARRACUDAS	369.00	554.00	1.50
WAHOO	57816.00	117835.00	2.04
JAPANESE MACKEREL	2.00	4.00	2.00
SKIPJACK TUNA	330852.00	342747.00	1.04
YELLOWFIN TUNA	376001.00	430837.00	1.15
ALBACORE	6676.00	11608.00	1.74
BIGEYE TUNA	18683.00	37999.00	2.03
KAWAKAWA	156.00	144.00	0.92
BROADBILL SWORDFISH	2629.00	7217.00	2.75
BLUE MARLIN	54720.00	40900.00	0.75
BLACK MARLIN	382.00	192.00	0.50
STRIPED MARLIN	12583.00	13784.00	1.10
SHORTNOSE SPEARFISH	2289.00	3190.00	1.39
SAILFISH	493.00	818.00	1.66
OCEAN MOONFISH	1530.00	2045.00	1.34
SPINY LOBSTER	24907.00	195964.00	7.87
SLIPPER LOBSTER	61381.00	390845.00	6.37
CRABS	255.00	1182.00	4.64
SHRIMP (FRESHWATER)	15.00	170.00	11.33
OCTOPUS	2445.00	5441.00	2.23
SQUID	93.00	210.00	2.26
LIMPETS (SALTWATER)	1160.00	3143.00	2.71
STONEY CORALS	2945.00	1724.00	0.59
PRECIOUS CORALS	220.00	3300.00	15.00
ALGAE	743.00	2402.00	3.23
** SUBTOTAL **	1083828.00	1894717.35	

Table V.2.9

HAWAII JULY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1425.00	2976.00	2.09
SHARKS	649.00	507.00	0.78
EELS	104.00	47.00	0.45
BIGEYE SCAD (AKULE)	23807.00	32809.00	1.38
MACKEREL SCAD	22270.00	39953.00	1.79
LEATHERBACK	11.00	11.00	1.00
TEN POUNDER	41.00	23.00	0.56
BONEFISH	1493.00	1580.00	1.06
MILKFISH	116.00	117.00	1.01
FLYING FISH	3.00	2.00	0.67
NEEDLEFISH	633.00	829.00	1.31
THREADFIN	199.00	683.00	3.43
MULLET	719.00	1809.00	2.52
POMFRET	595.00	282.00	0.47
SNAKE MACKEREL	21.00	5.00	0.24
JACKS (MISC.)	3473.00	5648.00	1.63
AMBERJACK	1400.00	551.00	0.39
BLUE CREVALLY	1394.00	2536.00	1.82
PIG-LIPPED ULUA	3506.00	3332.00	0.95
DOBE ULUA	158.00	214.00	1.35
PAAPAA ULUA	972.00	1432.00	1.47
WHITE ULUA	707.00	2001.00	2.83
BLACK ULUA	17.00	18.00	1.06
GIANT SEA BASS	6075.00	8473.00	1.39
BLUE SPOT GROUPER	83.00	162.00	1.95
SNAPPERS	272.00	529.00	1.94
BLUE LINED SNAPPER	3073.00	2396.00	0.78
EHU (RED SNAPPER)	3076.00	8492.00	2.76
GINDAI (FLOWER SNAP)	284.00	477.00	1.68
KALIKALI (PINK SNAP)	546.00	1299.00	2.38
LEHI (SILVERJAW)	435.00	1119.00	2.57
ONAGA (RED SNAPPER)	19032.00	66149.00	3.48
OPAKAPAKA (PINK SNP)	15035.00	46041.00	3.06
UKU (GRAY SNAPPER)	14695.00	39413.00	2.68
PORGY	353.00	590.00	1.67
SQUIRRELFISH	2523.00	5205.00	2.06
SCORPIONFISH	374.00	726.00	1.94
MOUNTAIN BASS	788.00	1569.00	1.99
BIGEYES	397.00	569.00	1.43
CARDINALFISH	1.00	0.10	0.10
GOATFISH	5297.00	11481.00	2.17
RUDDERFISH	3211.00	1372.00	0.43
DAMSELFISH	126.00	145.00	1.15
HAWKFISH	46.00	53.00	1.15

Table V.2.9 (Cont.)

HAWAII JULY 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
TILAPIA	172.00	604.00	3.51
WRASSE	599.00	1056.00	1.76
PARROTFISH	3247.00	4335.00	1.34
SURGEON/TANGS	4841.00	4326.00	0.89
FLOUNDERS	3.00	8.00	2.67
TRIGGERFISH	3.00	10.00	3.33
FILEFISH	28.00	15.00	0.54
RAINBOW RUNNER	2210.00	1382.00	0.63
DOLPHIN (MAHIMAHI)	22305.00	63833.00	2.86
BARRACUDAS	263.00	410.00	1.56
WAHOO	51088.00	98267.00	1.92
SKIPJACK TUNA	301594.00	273127.00	0.91
YELLOWFIN TUNA	538314.00	485319.00	0.90
ALBACORE	7440.00	5946.00	0.80
BIGEYE TUNA	14755.00	30887.00	2.09
KAWAKAWA	121.00	79.00	0.65
BROADBILL SWORDFISH	6347.00	17837.00	2.81
BLUE MARLIN	50895.00	33615.00	0.66
BLACK MARLIN	147.00	301.00	2.05
STRIPED MARLIN	5216.00	5988.00	1.15
SHORTNOSE SPEARFISH	1347.00	1933.00	1.44
SAILFISH	342.00	421.00	1.23
OCEAN MOONFISH	1816.00	2772.00	1.53
SPINY LOBSTER	42456.00	345097.00	8.13
SLIPPER LOBSTER	15925.00	98988.00	6.22
CRABS	671.00	2239.00	3.34
SHRIMP (FRESHWATER)	15.00	270.00	18.00
OCTOPUS	3075.00	6862.00	2.23
SQUID	112.00	214.00	1.91
LIMPETS (SALTWATER)	661.00	1681.00	2.54
STONEY CORALS	1251.00	2796.00	2.24
ALGAE	826.00	2676.00	3.24
** SUBTOTAL **	1217520.00	1786919.10	

Table V.2.10

HAWAII AUGUST 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1367.00	2538.00	1.86
SHARKS	865.00	954.00	1.10
EELS	45.00	21.00	0.47
BIGEYE SCAD (AKULE)	20218.00	35700.00	1.77
MACKEREL SCAD	38755.00	63280.00	1.63
LEATHERBACK	44.00	32.00	0.73
TEN POUNDER	31.00	23.00	0.74
BONEFISH	1158.00	1213.00	1.05
MILKFISH	135.00	138.00	1.02
NEEDLEFISH	339.00	321.00	0.95
THREADFIN	144.00	480.00	3.33
MULLET	519.00	1255.00	2.42
POMFRET	244.00	473.00	1.94
SNAKE MACKEREL	30.00	8.00	0.27
JACKS (MISC.)	4597.00	7486.00	1.63
AMBERJACK	702.00	344.00	0.49
BLUE CREVALLY	895.00	1399.00	1.56
PIG-LIPPED ULUA	9443.00	8113.00	0.86
DOBE ULUA	146.00	147.00	1.01
PAAPAA ULUA	751.00	907.00	1.21
WHITE ULUA	3074.00	4126.00	1.34
BLACK ULUA	265.00	301.00	1.14
GIANT SEA BASS	11465.00	15830.00	1.38
BLUE SPOT GROUPER	63.00	111.00	1.76
SNAPPERS	1100.00	1395.00	1.27
BLUE LINED SNAPPER	1930.00	1683.00	0.87
EHU (RED SNAPPER)	3183.00	7946.00	2.50
GINDAI (FLOWER SNAP)	421.00	723.00	1.72
KALIKALI (PINK SNAP)	910.00	1751.00	1.92
LEHI (SILVERJAW)	645.00	1941.00	3.01
ONAGA (RED SNAPPER)	21153.00	73253.00	3.46
OPAKAPAKA (PINK SNP)	19912.00	63479.00	3.19
UKU (GRAY SNAPPER)	18758.00	49793.00	2.65
PORGY	120.00	231.00	1.93
SQUIRRELFISH	3698.00	7614.00	2.06
SCORPIONFISH	241.00	493.00	2.05
MOUNTAIN BASS	472.00	1116.00	2.36
BIGEYES	542.00	1024.00	1.89
CARDINALFISH	1.00	0.10	0.10
GOATFISH	4332.00	10575.00	2.44
RUDDERFISH	1999.00	1073.00	0.54
DAMSELFISH	566.00	852.00	1.51
HAWKFISH	157.00	220.00	1.40
TILAPIA	85.00	297.00	3.49

Table V.2.10 (Cont.)

HAWAII AUGUST 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
WRASSE	698.00	1094.00	1.57
PARROTFISH	3592.00	4830.00	1.34
SURGEON/TANGS	9325.00	7448.45	0.80
FILEFISH	20.00	20.00	1.00
RAINBOW RUNNER	1630.00	1367.00	0.84
DOLPHIN (MAHIMAHI)	27980.00	74716.00	2.67
BARRACUDAS	665.00	931.00	1.40
WAHOO	42735.00	109766.00	2.57
JAPANESE MACKEREL	5.00	2.00	0.40
SKIPJACK TUNA	425353.00	306331.00	0.72
YELLOWFIN TUNA	719497.00	540397.00	0.75
ALBACORE	7418.00	5950.00	0.80
BIGEYE TUNA	4604.00	11849.00	2.57
KAWAKAWA	136.00	153.00	1.13
BROADBILL SWORDFISH	374.00	1204.00	3.22
BLUE MARLIN	70609.00	40004.00	0.57
BLACK MARLIN	1396.00	679.00	0.49
STRIPED MARLIN	4486.00	5700.00	1.27
SHORTNOSE SPEARFISH	1177.00	2084.00	1.77
SAILFISH	72.00	105.00	1.46
OCEAN MOONFISH	1051.00	1877.00	1.79
SPINY LOBSTER	40039.00	369655.00	9.23
SLIPPER LOBSTER	8018.00	51805.00	6.46
CRABS	3016.00	10428.00	3.46
SHRIMP (FRESHWATER)	26.00	345.00	13.27
OCTOPUS	5230.00	11499.00	2.20
SQUID	757.00	1320.00	1.74
LIMPETS (SALTWATER)	747.00	1999.00	2.68
STONEY CORALS	2930.00	5085.00	1.74
PRECIOUS CORALS	80.00	1040.00	13.00
SEA CUCUMBERS	16.00	50.00	3.13
ALGAE	694.00	2533.00	3.65
** SUBTOTAL **	1559896.00	1942925.55	

Table V.2.11

HAWAII SEPTEMBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1609.00	3344.00	2.08
SHARKS	702.00	1013.00	1.44
EELS	117.00	72.00	0.62
BIGEYE SCAD (AKULE)	13065.00	20653.00	1.58
MACKEREL SCAD	61879.00	85045.00	1.37
LEATHERBACK	12.00	14.00	1.17
TEN POUNDER	18.00	18.00	1.00
BONEFISH	932.00	970.00	1.04
MILKFISH	126.00	187.00	1.48
NEEDLEFISH	1336.00	697.00	0.52
THREADFIN	200.00	620.00	3.10
MULLET	711.00	1926.00	2.71
POMFRET	711.00	1089.00	1.53
SNAKE MACKEREL	6.00	1.00	0.17
JACKS (MISC.)	9085.00	11865.00	1.31
AMBERJACK	516.00	223.00	0.43
BLUE CREVALLY	2773.00	4313.00	1.56
PIG-LIPPED ULUA	7891.00	8037.00	1.02
DOBE ULUA	129.00	87.00	0.67
PAAPAA ULUA	1680.00	1977.00	1.18
WHITE ULUA	2305.00	3428.00	1.49
BLACK ULUA	139.00	99.00	0.71
GIANT SEA BASS	8772.00	13705.00	1.56
BLUE SPOT GROUPER	35.00	64.00	1.83
SNAPPERS	1699.00	1752.00	1.03
BLUE LINED SNAPPER	8181.00	6505.00	0.80
EHU (RED SNAPPER)	5161.00	11921.00	2.31
GINDAI (FLOWER SNAP)	704.00	1320.00	1.88
KALIKALI (PINK SNAP)	1985.00	3248.00	1.64
LEHI (SILVERJAW)	3213.00	8032.00	2.50
ONAGA (RED SNAPPER)	29447.00	92180.00	3.13
OPAKAPAKA (PINK SNP)	36585.00	97588.00	2.67
UKU (GRAY SNAPPER)	11875.00	29201.00	2.46
PORGY	292.00	467.00	1.60
SQUIRRELFISH	5746.00	10625.00	1.85
TRUMPETFISH	7.00	3.00	0.43
SCORPIONFISH	424.00	821.00	1.94
MOUNTAIN BASS	415.00	1165.00	2.81
BIGEYES	931.00	1321.00	1.42
CARDINALFISH	2.00	2.00	1.00
GOATFISH	5748.00	11565.00	2.01
RUDDERFISH	786.00	573.00	0.73
DAMSELFISH	468.00	494.00	1.06
HAWKFISH	98.00	126.00	1.29

Table V.2.11 (Cont.)

HAWAII SEPTEMBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
TILAPIA	105.00	365.00	3.48
WRASSE	1051.00	1746.00	1.66
PARROTFISH	4085.00	4838.00	1.18
SURGEON/TANGS	6957.00	6091.00	0.88
FLOUNDERS	4.00	4.00	1.00
TRIGGERFISH	96.00	103.00	1.07
FILEFISH	17.00	8.00	0.47
RAINBOW RUNNER	1588.00	1728.00	1.09
DOLPHIN (MAHIMAHI)	16616.00	52328.00	3.15
BARRACUDAS	1281.00	1311.00	1.02
WAHOO	49424.00	110237.00	2.23
SKIPJACK TUNA	282048.00	245807.00	0.87
YELLOWFIN TUNA	433850.00	505434.00	1.16
ALBACORE	7130.00	6881.00	0.97
BIGEYE TUNA	2249.00	4891.00	2.17
KAWAKAWA	149.00	102.00	0.68
BROADBILL SWORDFISH	319.00	909.00	2.85
BLUE MARLIN	39986.00	26185.00	0.65
BLACK MARLIN	2338.00	1759.00	0.75
STRIPED MARLIN	3590.00	5372.00	1.50
SHORTNOSE SPEARFISH	322.00	646.00	2.01
SAILFISH	105.00	153.00	1.46
OCEAN MOONFISH	1273.00	2078.00	1.63
SPINY LOBSTER	63796.00	501962.00	7.87
SLIPPER LOBSTER	16768.00	117580.00	7.01
CRABS	9014.00	28074.00	3.11
SHRIMP (FRESHWATER)	535.00	2108.00	3.94
OCTOPUS	4626.00	9484.00	2.05
SQUID	666.00	1035.00	1.55
LIMPETS (SALTWATER)	1486.00	4270.00	2.87
LIMPETS (FRESHWATER)	444.00	916.00	2.06
STONEY CORALS	105.00	145.00	1.38
ALGAE	444.00	1527.00	3.44
** SUBTOTAL **	1180983.00	2084433.00	

Table V.2.12

HAWAII OCTOBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1637.00	3395.00	2.07
SHARKS	705.00	318.00	0.45
RAYS	20.00	12.00	0.60
EELS	84.00	64.00	0.76
ALFONSIN	45.00	48.00	1.07
BIGEYE SCAD (AKULE)	6077.00	9241.00	1.52
MACKEREL SCAD	53619.00	70877.00	1.32
LEATHERBACK	26.00	19.00	0.73
TEN POUNDER	17.00	12.00	0.71
BONEFISH	1161.00	1214.00	1.05
MILKFISH	162.00	289.00	1.78
NEEDLEFISH	487.00	337.00	0.69
THREADFIN	41.00	139.00	3.39
MULLET	1150.00	3200.00	2.78
POMFRET	550.00	770.00	1.40
SNAKE MACKEREL	48.00	12.00	0.25
JACKS (MISC.)	5346.00	7911.00	1.48
AMBERJACK	1493.00	598.00	0.40
BLUE CREVALLY	1384.00	2317.00	1.67
PIG-LIPPED ULUA	9795.00	11491.00	1.17
DOBE ULUA	192.00	235.00	1.22
PAAPAA ULUA	1276.00	2309.00	1.81
WHITE ULUA	4999.00	10114.00	2.02
BLACK ULUA	73.00	84.00	1.15
GIANT SEA BASS	15733.00	25695.00	1.63
BLUE SPOT GROUPER	96.00	213.00	2.22
SNAPPERS	180.00	635.00	3.53
BLUE LINED SNAPPER	5465.00	5196.00	0.95
EHU (RED SNAPPER)	4358.00	11782.00	2.70
GINDAI (FLOWER SNAP)	744.00	1377.00	1.85
KALIKALI (PINK SNAP)	2228.00	5036.00	2.26
LEHI (SILVERJAW)	1776.00	4635.00	2.61
ONAGA (RED SNAPPER)	24633.00	83586.00	3.39
OPAKAPAKA (PINK SNP)	25731.00	77669.00	3.02
UKU (GRAY SNAPPER)	10063.00	25496.00	2.53
PORGY	215.00	420.00	1.95
SQUIRRELFISH	2784.00	6144.00	2.21
TRUMPETFISH	6.00	3.00	0.50
SCORPIONFISH	320.00	558.00	1.74
MOUNTAIN BASS	606.00	1216.00	2.01
BIGEYES	1233.00	2078.00	1.69
GOATFISH	4286.00	9427.00	2.20
RUDDERFISH	822.00	521.00	0.63
DAMSELFISH	65.00	73.00	1.12

Table V.2.12 (Cont.)

HAWAII OCTOBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
HAWKFISH	62.00	85.00	1.37
TILAPIA	104.00	365.00	3.51
WRASSE	614.00	1243.00	2.02
PARROTFISH	3029.00	3707.00	1.22
SURGEON/TANGS	6310.00	5738.00	0.91
FLOUNDERS	4.00	3.00	0.75
TRIGGERFISH	26.00	70.00	2.69
FILEFISH	24.00	33.00	1.38
RAINBOW RUNNER	3053.00	2885.00	0.94
DOLPHIN (MAHIMAHI)	35001.00	92774.00	2.65
BARRACUDAS	642.00	945.00	1.47
WAHOO	42731.00	96563.00	2.26
SKIPJACK TUNA	131584.00	168685.00	1.28
YELLOWFIN TUNA	167791.00	301801.00	1.80
ALBACORE	9063.00	15679.00	1.73
BIGEYE TUNA	19578.00	55116.00	2.82
KAWAKAWA	417.00	529.00	1.27
BROADBILL SWORDFISH	164.00	499.00	3.04
BLUE MARLIN	31417.00	31965.00	1.02
BLACK MARLIN	1382.00	1584.00	1.15
STRIPED MARLIN	6526.00	13093.00	2.01
SHORTNOSE SPEARFISH	378.00	735.00	1.94
SAILFISH	123.00	242.00	1.97
OCEAN MOONFISH	4080.00	5553.00	1.36
SPINY LOBSTER	44843.00	423014.00	9.43
SLIPPER LOBSTER	43117.00	207795.00	4.82
CRABS	4226.00	14204.00	3.36
SHRIMP (FRESHWATER)	580.00	1668.00	2.88
OCTOPUS	2971.00	6530.00	2.20
SQUID	1696.00	1597.00	0.94
LIMPETS (SALTWATER)	801.00	2150.00	2.68
LIMPETS (FRESHWATER)	370.00	739.00	2.00
STONEY CORALS	640.00	1600.00	2.50
ALGAE	453.00	1602.00	3.54
** SUBTOTAL **	755531.00	1847557.00	

Table V.2.13

HAWAII NOVEMBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1974.00	3586.00	1.82
SHARKS	580.00	1201.00	2.07
EELS	46.00	44.00	0.96
BIGEYE SCAD (AKULE)	3253.00	6108.00	1.88
MACKEREL SCAD	34135.00	46497.00	1.36
LEATHERBACK	8.00	7.00	0.88
TEN POUNDER	48.00	42.00	0.88
BONEFISH	98.00	81.00	0.83
MILKFISH	63.00	91.00	1.44
NEEDLEFISH	172.00	216.00	1.26
THREADFIN	46.00	140.00	3.04
MULLET	1282.00	3708.00	2.89
POMFRET	895.00	1609.00	1.80
SNAKE MACKEREL	26.00	6.00	0.23
JACKS (MISC.)	3493.00	4931.00	1.41
AMBERJACK	1098.00	679.00	0.62
BLUE CREVALLY	1459.00	1886.00	1.29
PIG-LIPPED ULUA	6610.00	8367.00	1.27
DOBE ULUA	24.00	31.00	1.29
PAAPAA ULUA	146.00	324.00	2.22
WHITE ULUA	233.00	894.00	3.84
GIANT SEA BASS	7455.00	11468.00	1.54
BLUE SPOT GROUPER	77.00	163.00	2.12
SNAPPERS	24.00	53.00	2.21
BLUE LINED SNAPPER	3558.00	2647.00	0.74
EHU (RED SNAPPER)	5938.00	14514.00	2.44
GINDAI (FLOWER SNAP)	448.00	1002.00	2.24
KALIKALI (PINK SNAP)	1694.00	3701.00	2.18
LEHI (SILVERJAW)	1623.00	4861.00	3.00
ONAGA (RED SNAPPER)	19273.00	76757.00	3.98
OPAKAPAKA (PINK SNP)	29798.00	98553.00	3.31
UKU (GRAY SNAPPER)	3558.00	9172.00	2.58
PORGY	152.00	330.00	2.17
REEF JACKS	1.00	2.00	2.00
SQUIRRELFISH	1354.00	2791.00	2.06
TRUMPETFISH	99.00	70.00	0.71
SCORPIONFISH	281.00	697.00	2.48
MOUNTAIN BASS	138.00	321.00	2.33
BIGEYES	944.00	1564.00	1.66
CARDINALFISH	1.00	0.25	0.25
GOATFISH	2267.00	4180.00	1.84
RUDDERFISH	287.00	187.00	0.65
DAMSELFISH	76.00	82.00	1.08
HAWKFISH	3.00	3.00	1.00

Table V.2.13 (Cont.)

HAWAII NOVEMBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
TILAPIA	76.00	193.00	2.54
WRASSE	405.00	844.00	2.08
PARROTFISH	1408.00	1827.00	1.30
SURGEON/TANGS	6044.00	5220.00	0.86
FLOUNDERS	1.00	0.25	0.25
TRIGGERFISH	28.00	60.00	2.14
FILEFISH	13.00	13.00	1.00
PUFFERFISH	3.00	16.00	5.33
RAINBOW RUNNER	776.00	794.00	1.02
DOLPHIN (MAHIMAHI)	34530.00	103366.00	2.99
BARRACUDAS	1031.00	1972.00	1.91
WAHOO	14416.00	45024.00	3.12
SKIPJACK TUNA	59337.00	113639.00	1.92
YELLOWFIN TUNA	83661.00	160800.00	1.92
ALBACORE	3744.00	8392.00	2.24
BIGEYE TUNA	15713.00	49890.00	3.18
KAWAKAWA	595.00	840.00	1.41
BROADBILL SWORDFISH	182.00	212.00	1.16
BLUE MARLIN	40215.00	33492.00	0.83
BLACK MARLIN	726.00	872.00	1.20
STRIPED MARLIN	6845.00	10332.00	1.51
SHORTNOSE SPEARFISH	1468.00	2855.00	1.94
SAILFISH	322.00	632.00	1.96
OCEAN MOONFISH	2288.00	3277.00	1.43
SPINY LOBSTER	35391.00	277454.00	7.84
SLIPPER LOBSTER	23762.00	160460.00	6.75
CRABS	2018.00	6786.00	3.36
SHRIMP (FRESHWATER)	35.00	362.00	10.34
SHRIMP (SALTWATER)	35.00	105.00	3.00
OCTOPUS	3868.00	7911.00	2.05
LIMPETS (SALTWATER)	195.00	572.00	2.93
LIMPETS (FRESHWATER)	390.00	755.00	1.94
STONEY CORALS	616.00	1490.00	2.42
ALGAE	417.00	1390.00	3.33
** SUBTOTAL **	475292.00	1315413.50	

Table V.2.14

HAWAII DECEMBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
MISCELLANEOUS	1613.00	3257.00	2.02
SHARKS	622.00	884.00	1.42
EELS	74.00	53.00	0.72
ALFONSIN	25.00	50.00	2.00
BIGEYE SCAD (AKULE)	13021.00	28324.00	2.18
MACKEREL SCAD	29162.00	45804.00	1.57
LEATHERBACK	40.00	86.00	2.15
TEN POUNDER	11.00	9.00	0.82
BONEFISH	2115.00	2096.00	0.99
MILKFISH	57.00	75.00	1.32
NEEDLEFISH	92.00	117.00	1.27
THREADFIN	72.00	290.00	4.03
MULLET	328.00	946.00	2.88
POMFRET	1137.00	2221.00	1.95
SNAKE MACKEREL	16.00	4.00	0.25
JACKS (MISC.)	5184.00	7966.00	1.54
AMBERJACK	1984.00	812.00	0.41
BLUE CREVALLY	405.00	786.00	1.94
PIG-LIPPED ULUA	7290.00	6290.00	0.86
DOBE ULUA	81.00	118.00	1.46
PAAPAA ULUA	453.00	775.00	1.71
WHITE ULUA	3022.00	4856.00	1.61
BLACK ULUA	14.00	17.00	1.21
GIANT SEA BASS	3323.00	7208.00	2.17
BLUE SPOT GROUPER	43.00	101.00	2.35
SNAPPERS	63.00	147.00	2.33
BLUE LINED SNAPPER	5236.00	3996.00	0.76
EHU (RED SNAPPER)	6065.00	18084.00	2.98
GINDAI (FLOWER SNAP)	382.00	861.00	2.25
KALIKALI (PINK SNAP)	4843.00	7901.00	1.63
LEHI (SILVERJAW)	6650.00	17799.00	2.68
ONAGA (RED SNAPPER)	40811.00	151170.00	3.70
OPAKAPAKA (PINK SNP)	50751.00	156871.00	3.09
UKU (GRAY SNAPPER)	4512.00	12254.00	2.72
PORGY	41.00	88.00	2.15
REEF JACKS	1.00	2.00	2.00
SQUIRRELFISH	1950.00	4441.00	2.28
TRUMPETFISH	117.00	59.00	0.50
SCORPIONFISH	550.00	1510.00	2.75
MOUNTAIN BASS	191.00	562.00	2.94
BIGEYES	825.00	1201.00	1.46
GOATFISH	3801.00	8991.00	2.37
RUDDERFISH	733.00	466.00	0.64
DAMSELFISH	131.00	144.00	1.10

Table V.2.14 (Cont.)

HAWAII DECEMBER 1986 COMMERCIAL LANDINGS
FISH PURCHASES BY SPECIES

SPECIES	POUNDS	VALUE	AVE $/#
HAWKFISH	76.00	115.00	1.51
TILAPIA	162.00	487.00	3.01
WRASSE	840.00	1921.00	2.29
PARROTFISH	2975.00	4163.00	1.40
SURGEON/TANGS	9237.00	7959.00	0.86
TRIGGERFISH	15.00	52.00	3.47
FILEFISH	25.00	11.00	0.44
RAINBOW RUNNER	1663.00	1373.00	0.83
DOLPHIN (MAHIMAHI)	49021.00	120410.00	2.46
BARRACUDAS	1335.00	1703.00	1.28
WAHOO	12650.00	42568.00	3.37
SKIPJACK TUNA	226418.00	299773.00	1.32
YELLOWFIN TUNA	171800.00	272974.00	1.59
ALBACORE	514.00	1069.00	2.08
BIGEYE TUNA	14120.00	46154.00	3.27
KAWAKAWA	948.00	1431.00	1.51
BROADBILL SWORDFISH	125.00	288.00	2.30
BLUE MARLIN	25222.00	29952.00	1.19
BLACK MARLIN	1046.00	1075.00	1.03
STRIPED MARLIN	2641.00	6344.00	2.40
SHORTNOSE SPEARFISH	1022.00	1794.00	1.76
SAILFISH	287.00	501.00	1.75
OCEAN MOONFISH	1349.00	1692.00	1.25
SPINY LOBSTER	16922.00	140369.00	8.30
SLIPPER LOBSTER	5378.00	34341.00	6.39
CRABS	1359.00	5685.00	4.18
SHRIMP (SALTWATER)	135.00	834.00	6.18
OCTOPUS	1902.00	4006.00	2.11
LIMPETS (SALTWATER)	742.00	2038.00	2.75
LIMPETS (FRESHWATER)	334.00	587.00	1.76
STONEY CORALS	20.00	16.00	0.80
PRECIOUS CORALS	445.00	6223.00	13.98
ALGAE	1142.00	5371.00	4.70
** SUBTOTAL **	749707.00	1542971.00	
** TOTAL **	10342416.00	19454788.80	

Figure V.2.1

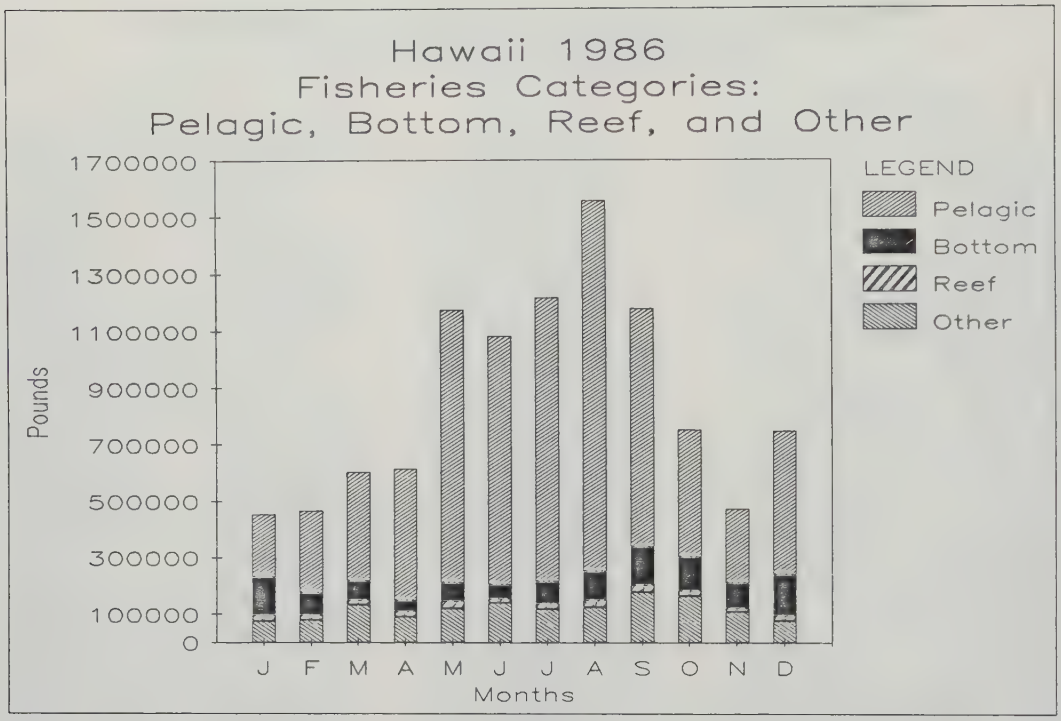

Figure V.2.2

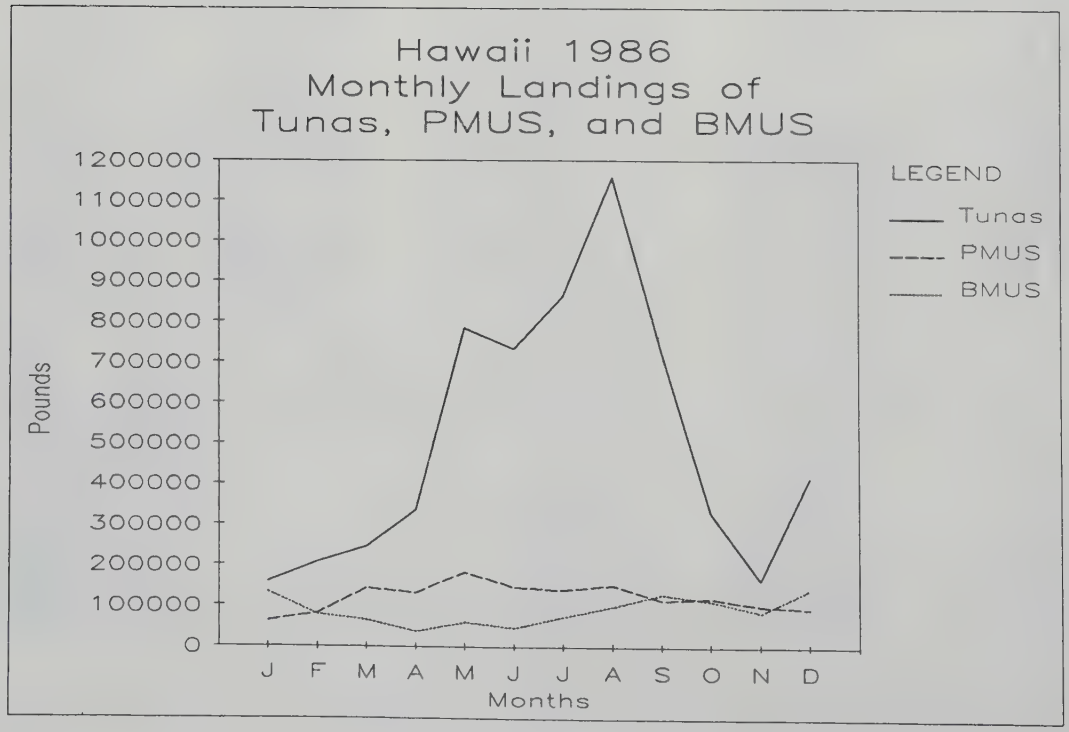

Figure V.2.3

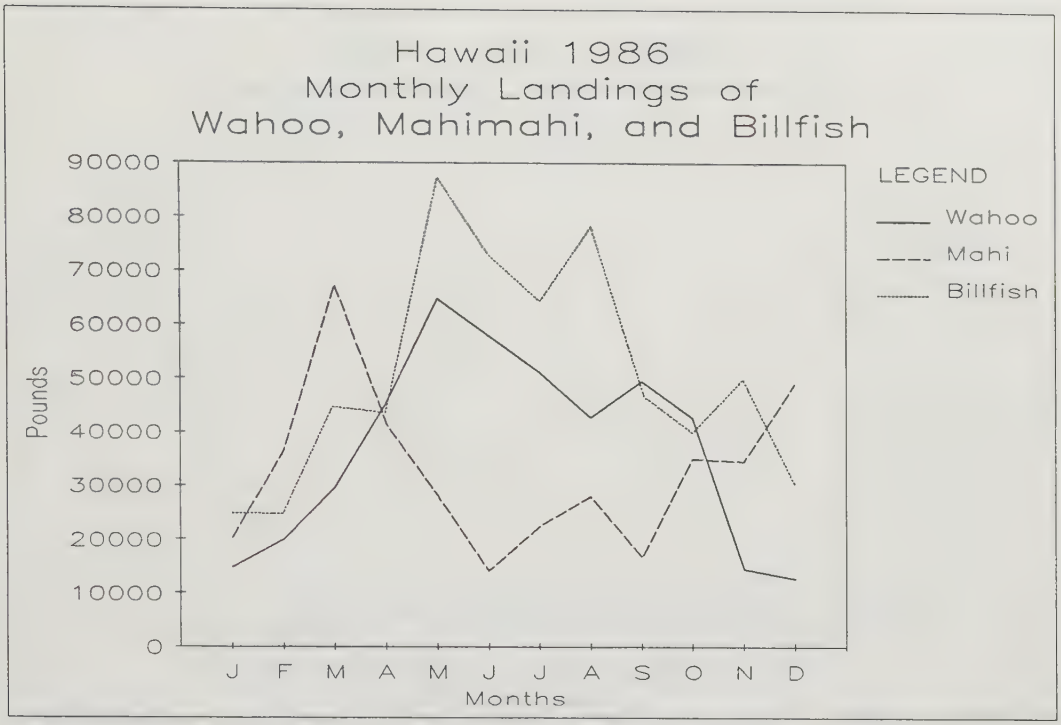

Figure V.2.4

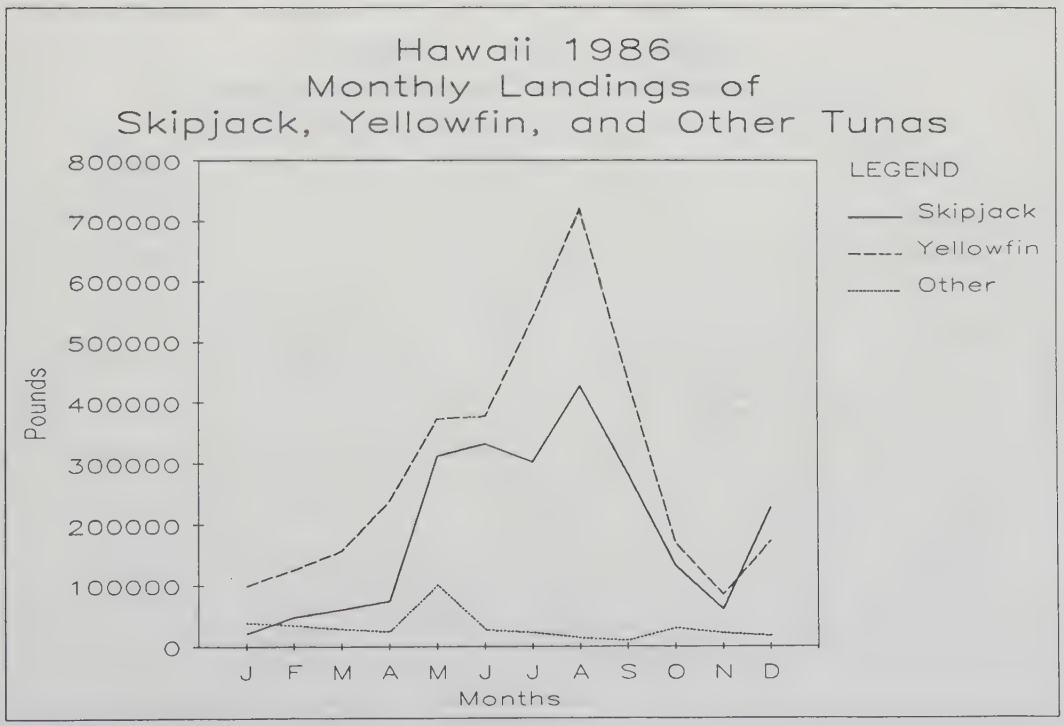

Figure V.3.1

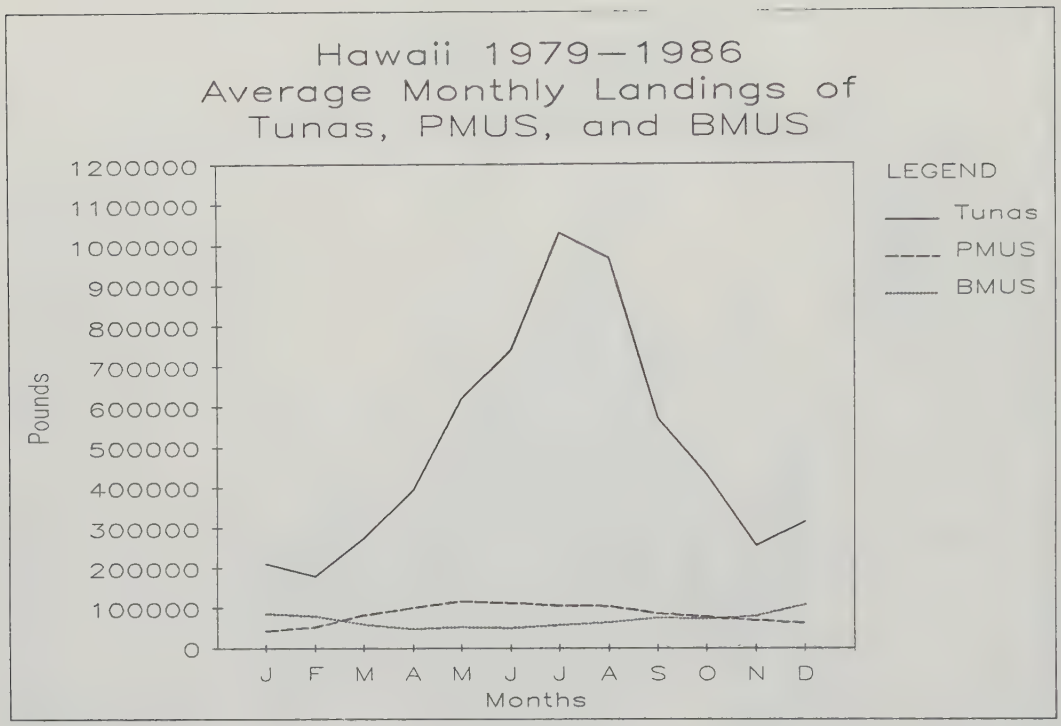

Figure V.3.2

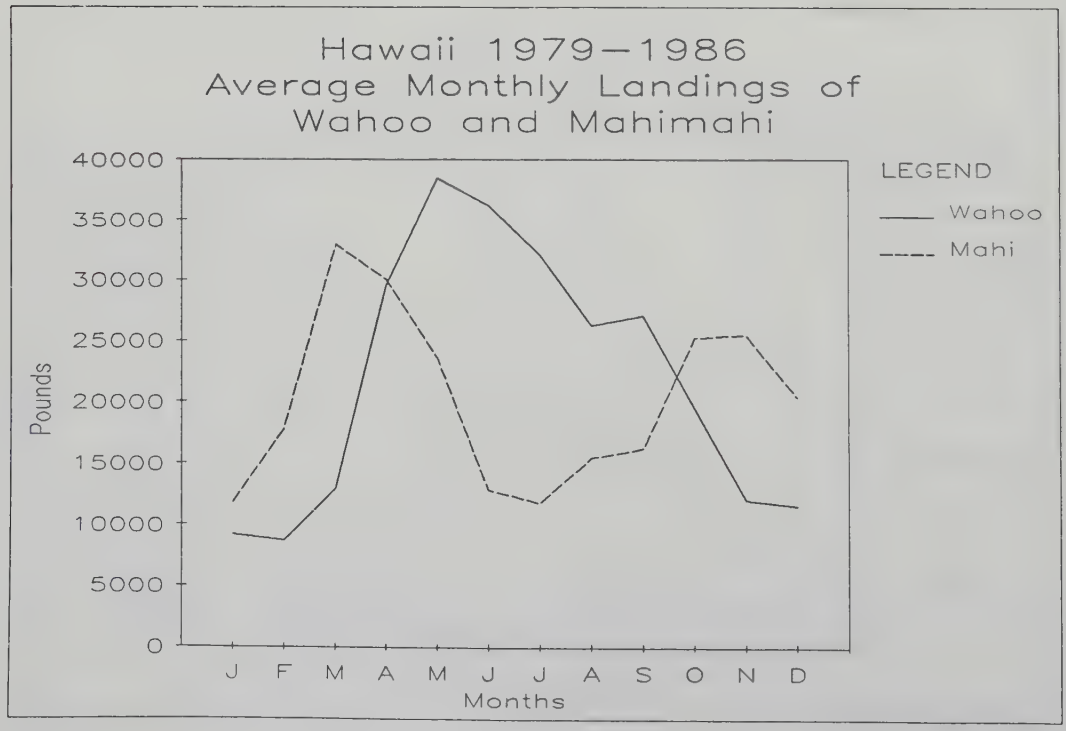

Figure V.3.3

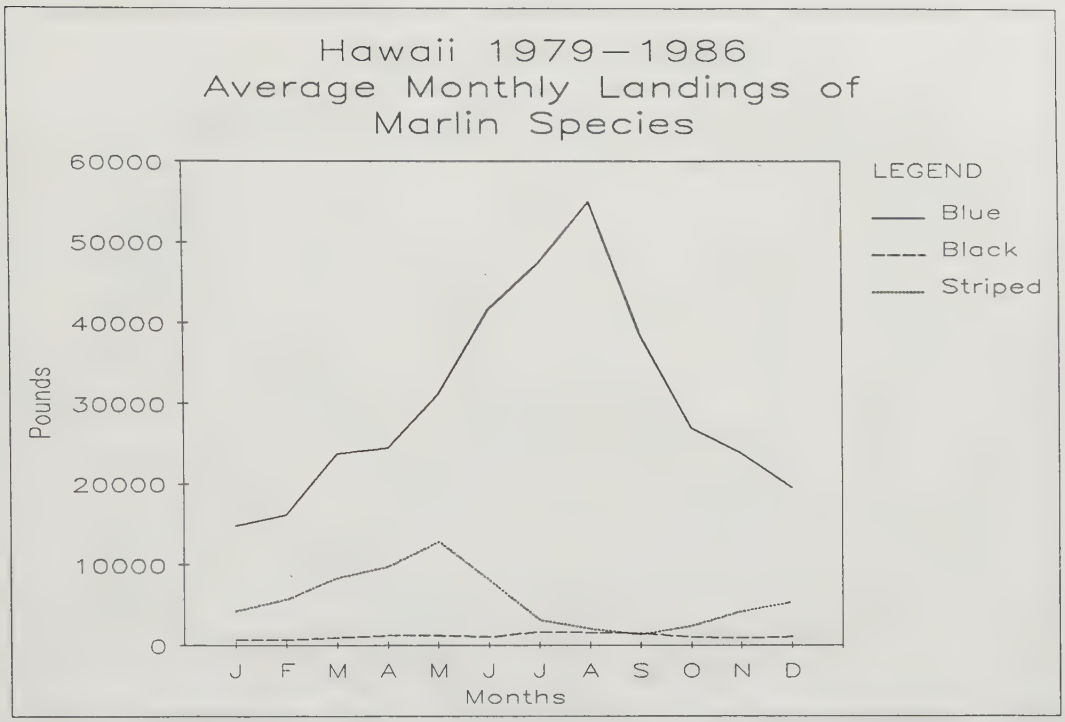

Figure V.3.4

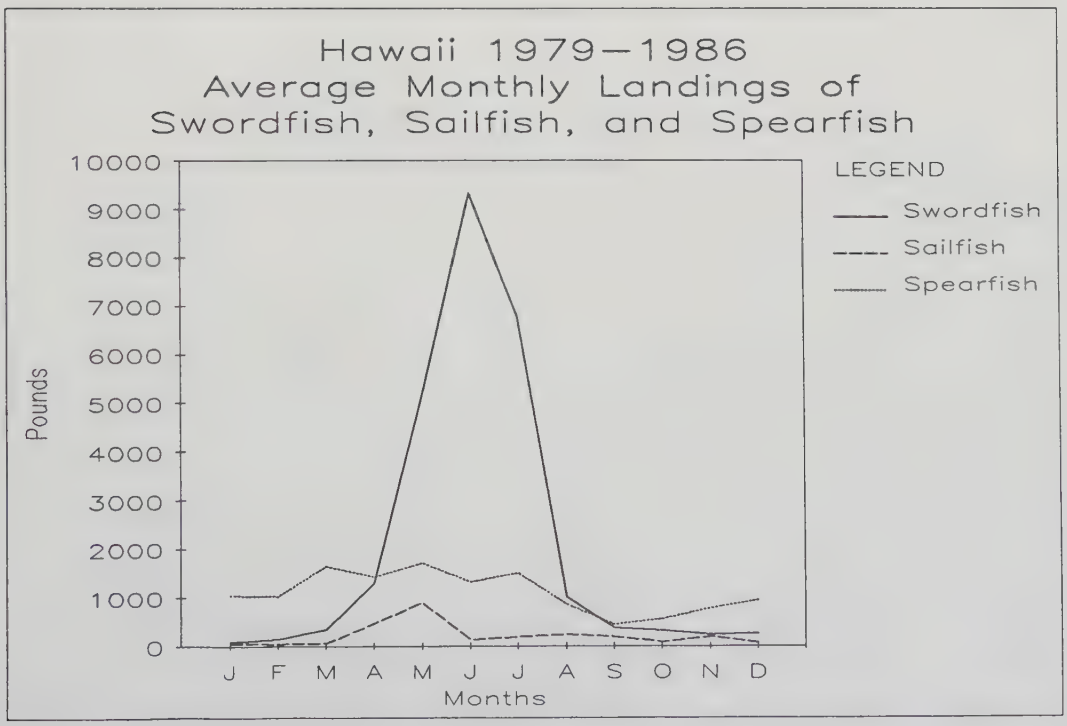

Figure V.3.5

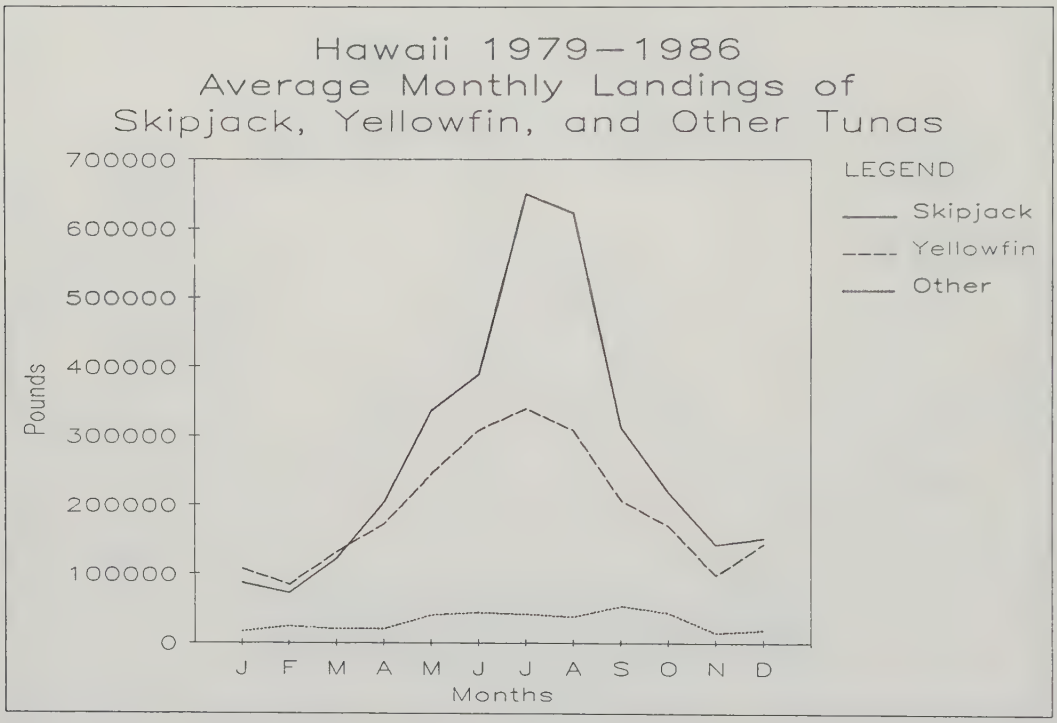
Hawaii 1979—1986
Average Monthly Landings of
Skipjack, Yellowfin, and Other Tunas
700000
600000
500000
400000
300000
200000
100000
0
Pounds
J F M A M J J A S O N D
Months
LEGEND
Skipjack
Yellowfin
Other

Figure V.3.6

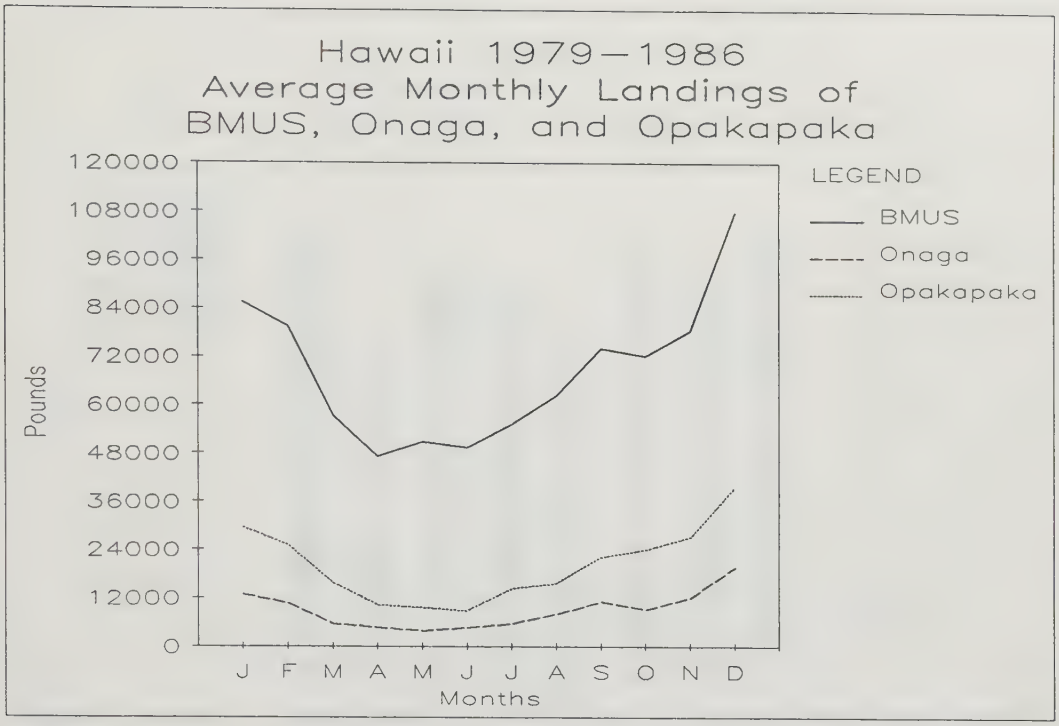

Figure V.3.7

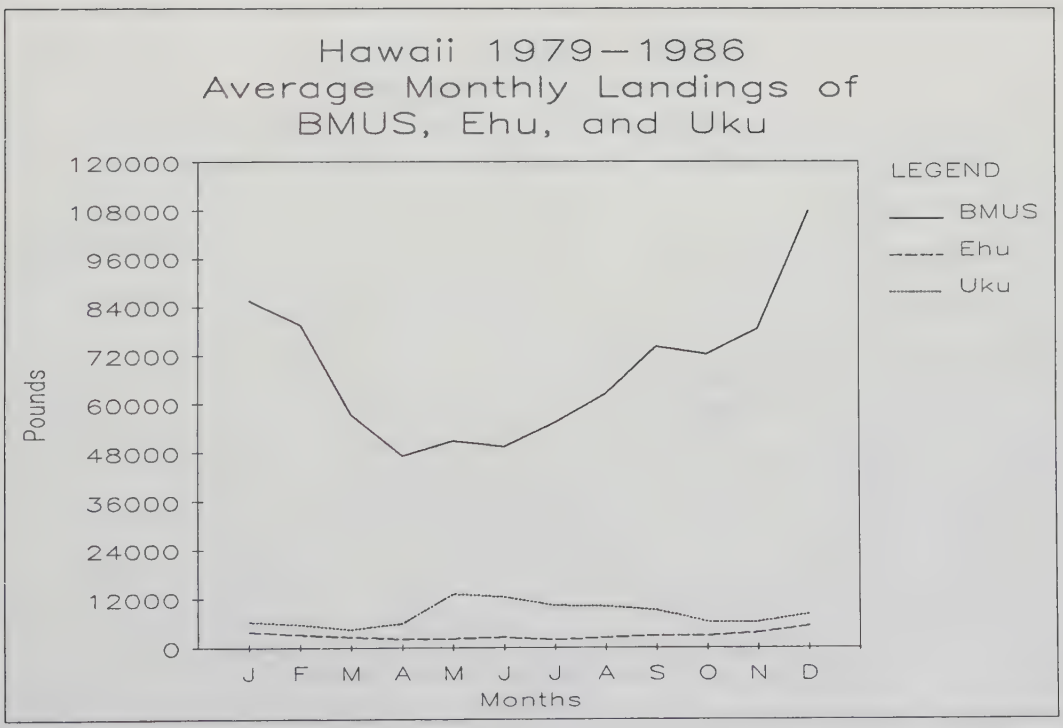

Figure V.4.1

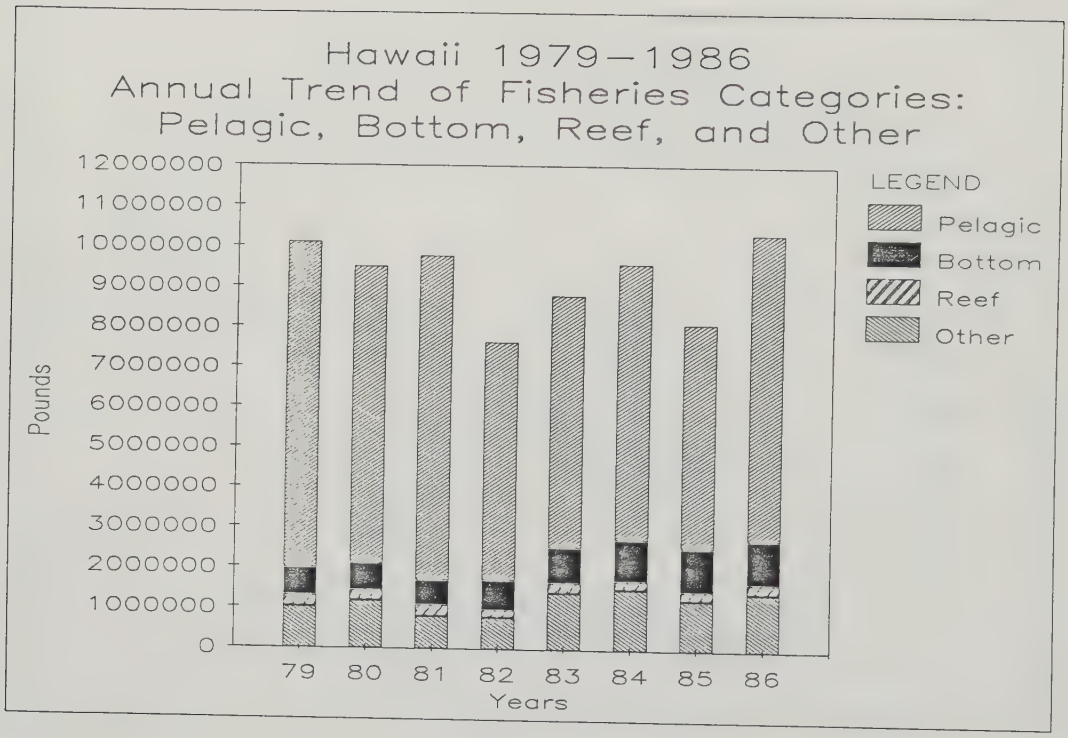

Figure V.4.2

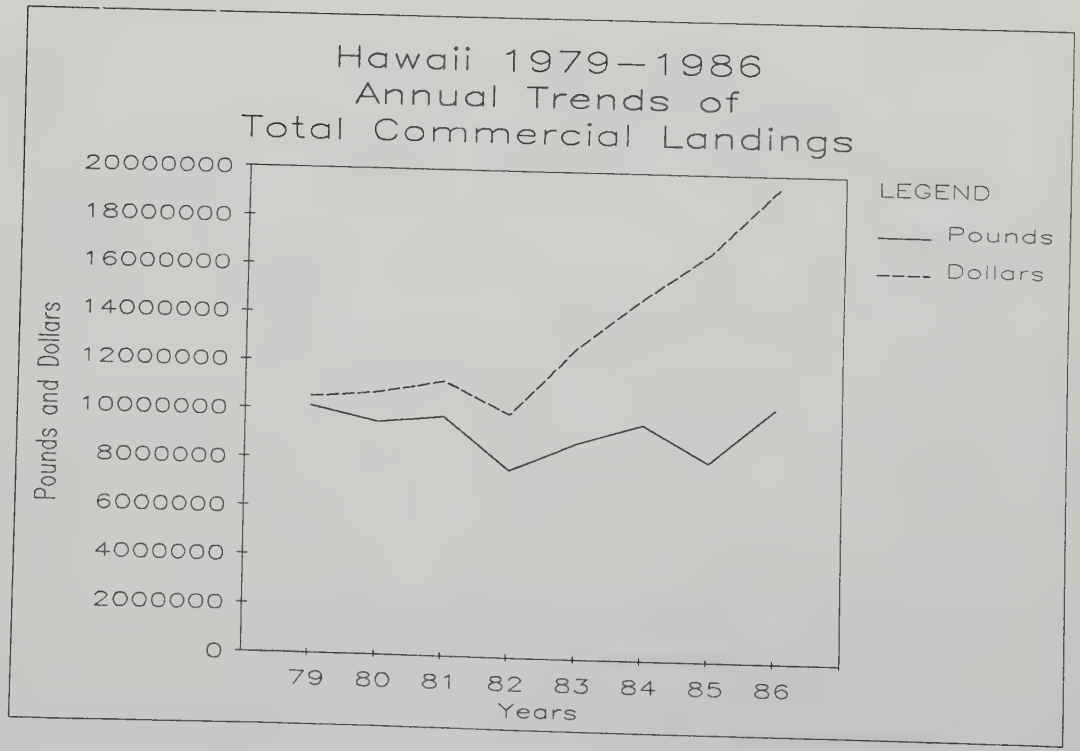

Figure V.4.3

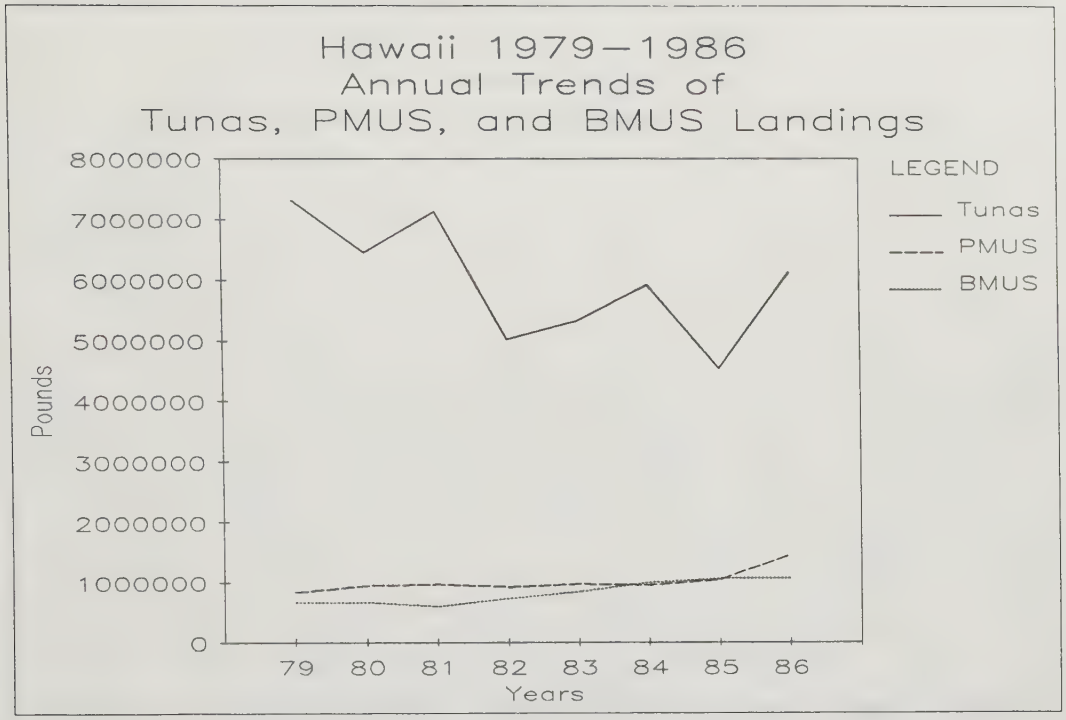

Figure V.4.4

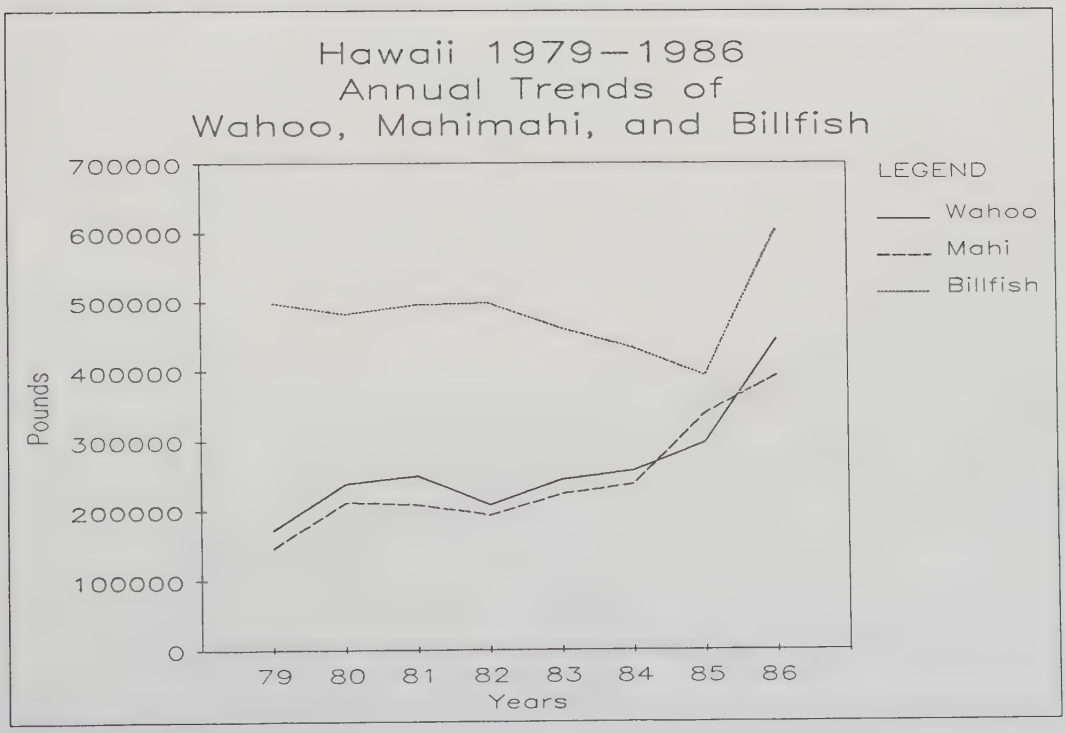

Figure V.4.5

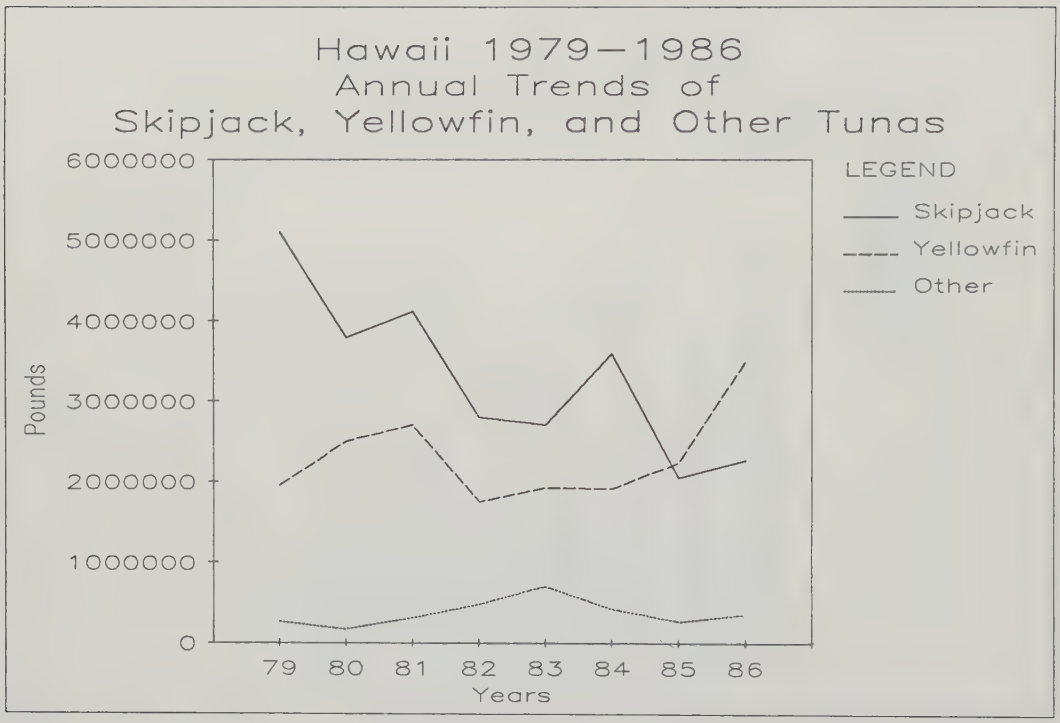
Hawaii 1979—1986
Annual Trends of
Skipjack, Yellowfin, and Other Tunas
6000000
5000000
4000000
3000000
2000000
1000000
0
Pounds
79
80
81
82
83
84
85
86
Years
LEGEND
Skipjack
Yellowfin
Other

Figure V.5.1

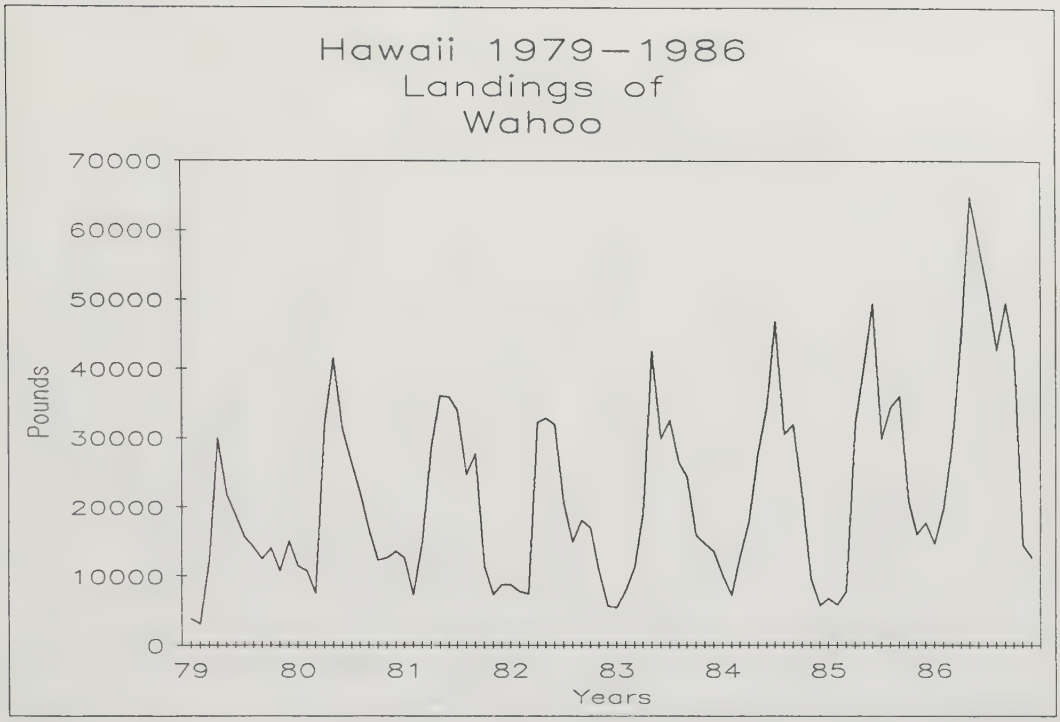

Figure V.5.2

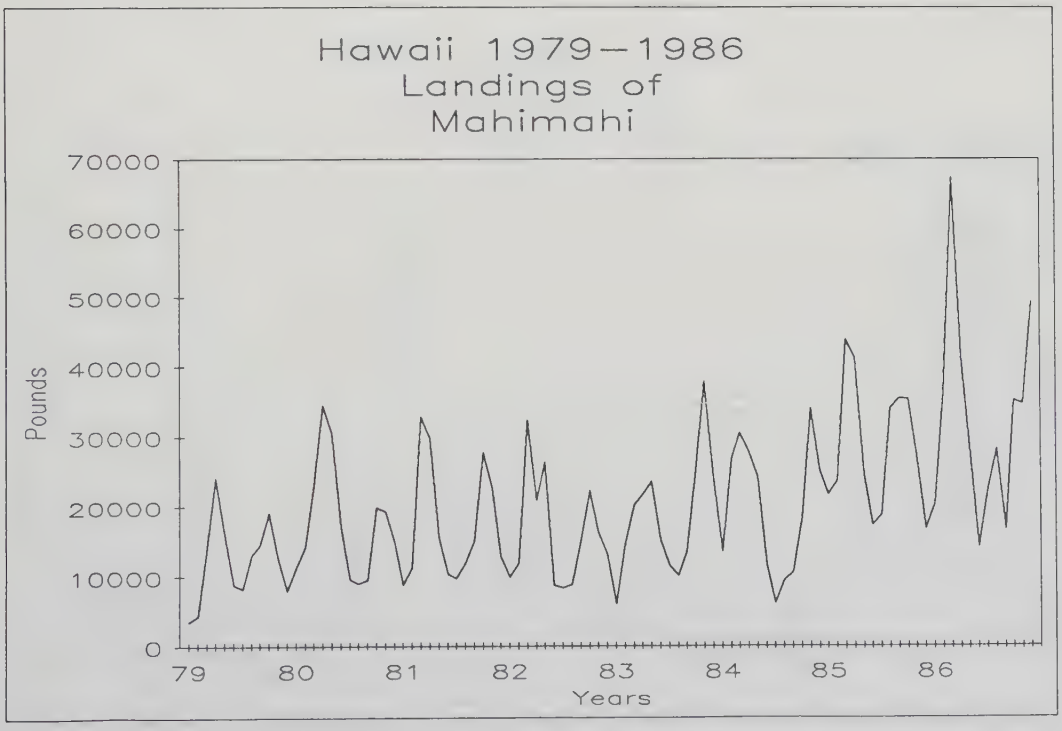

Figure V.5.3

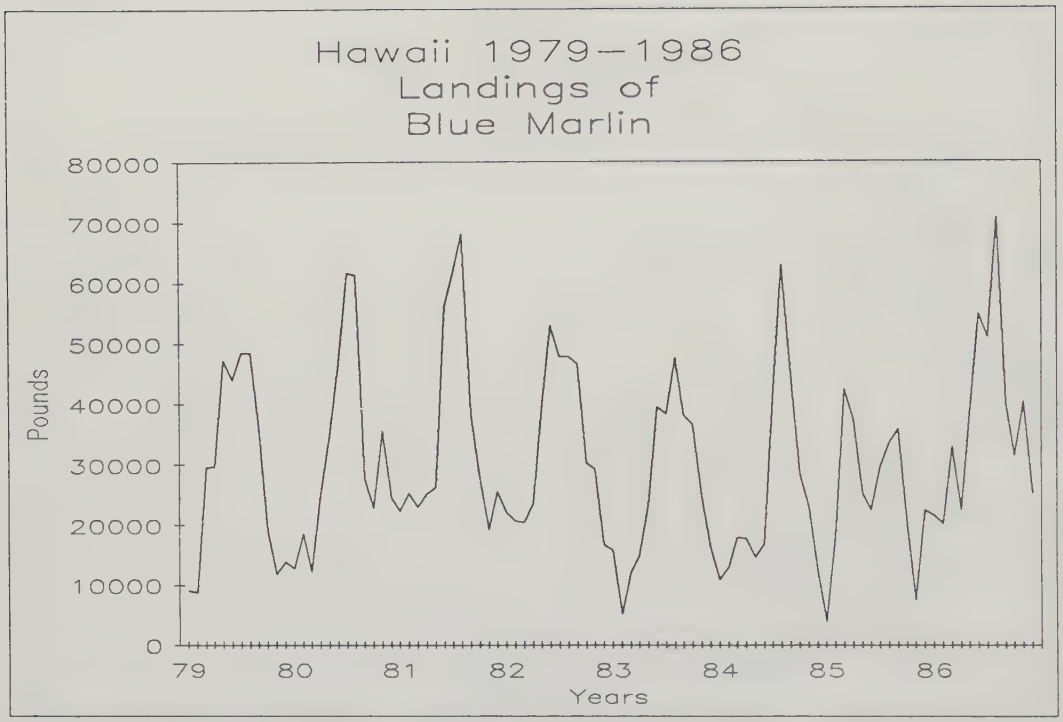

Figure V.5.4

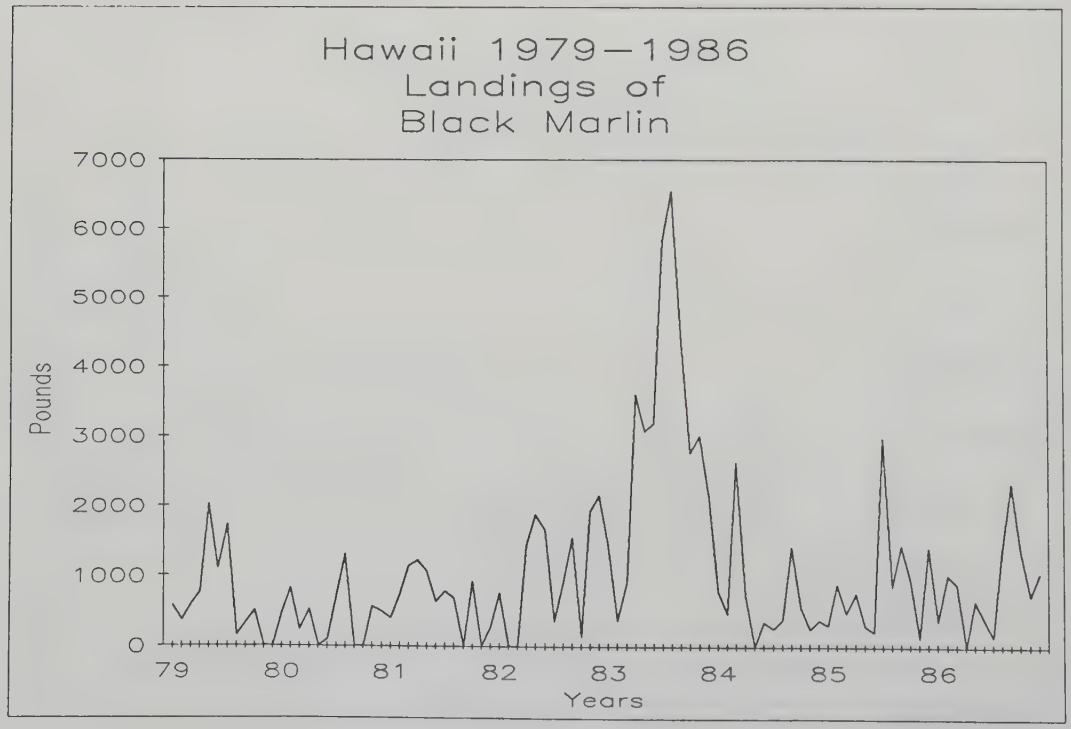

Figure V.5.5

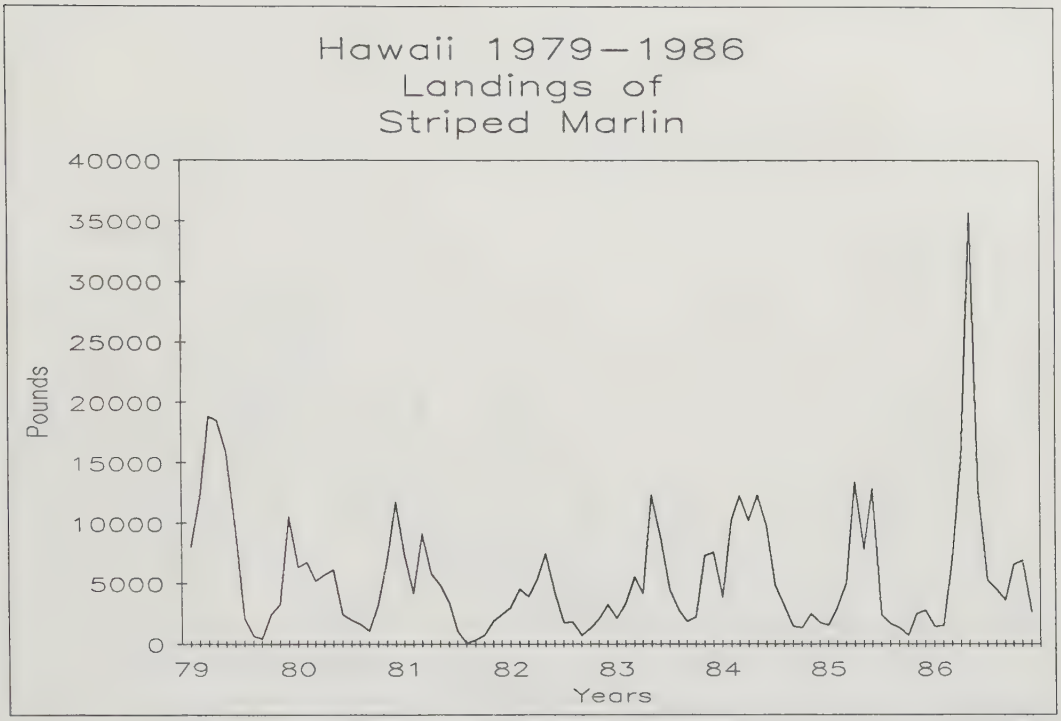

Figure V.5.6

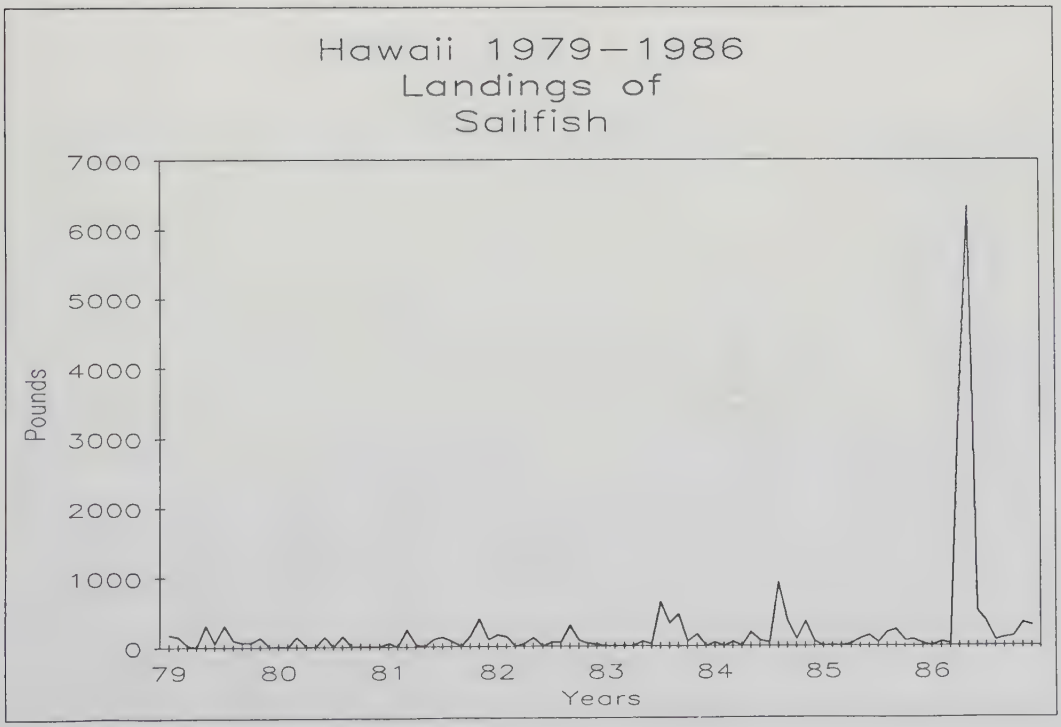

Figure V.5.7

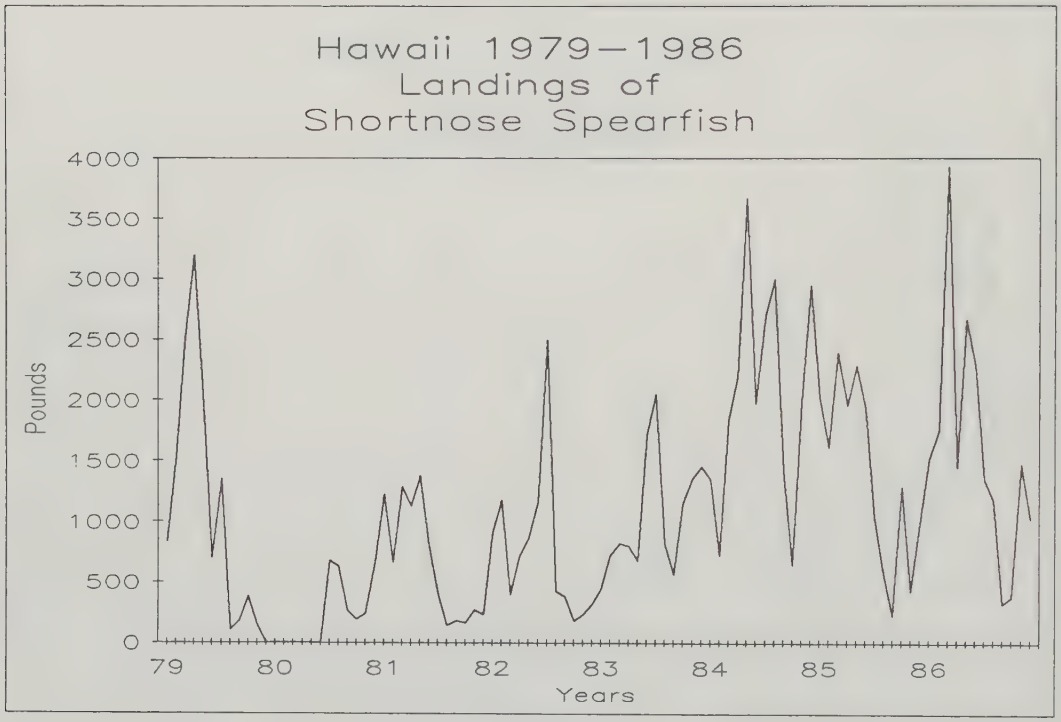

Figure V.5.8

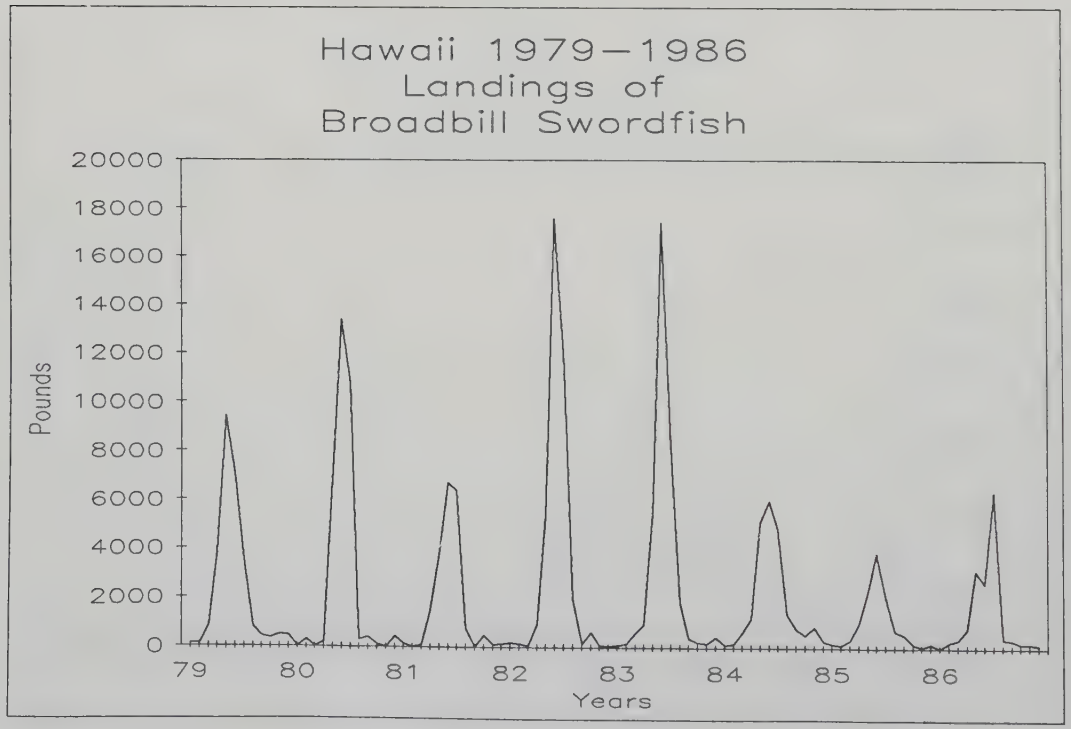

Figure V.5.9

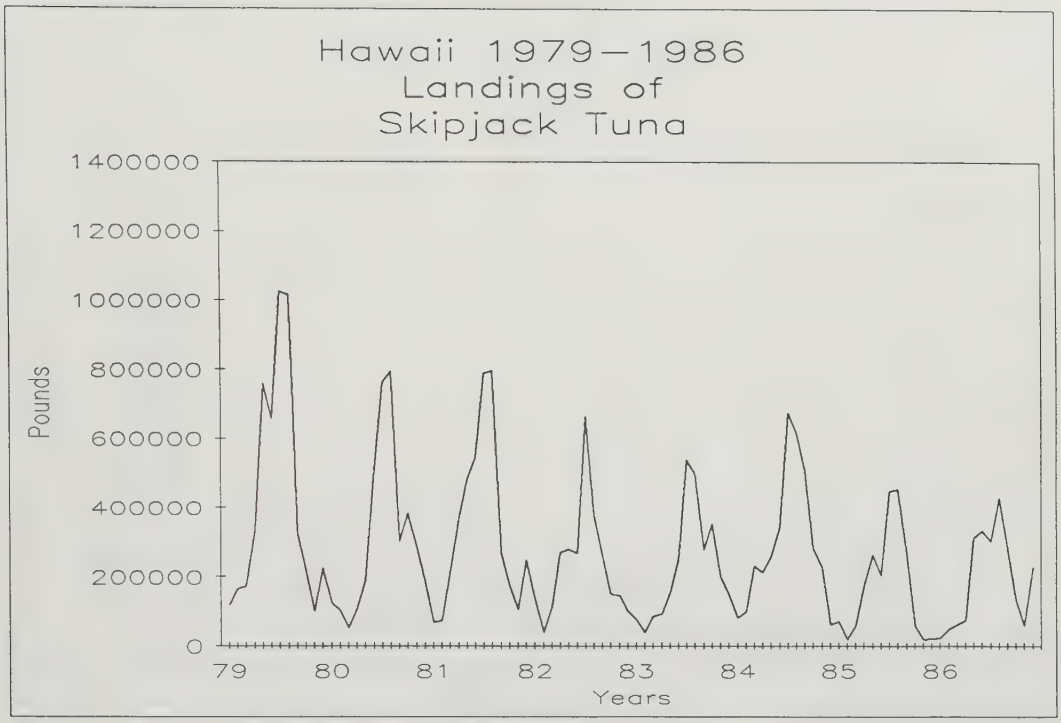

Figure V.5.10

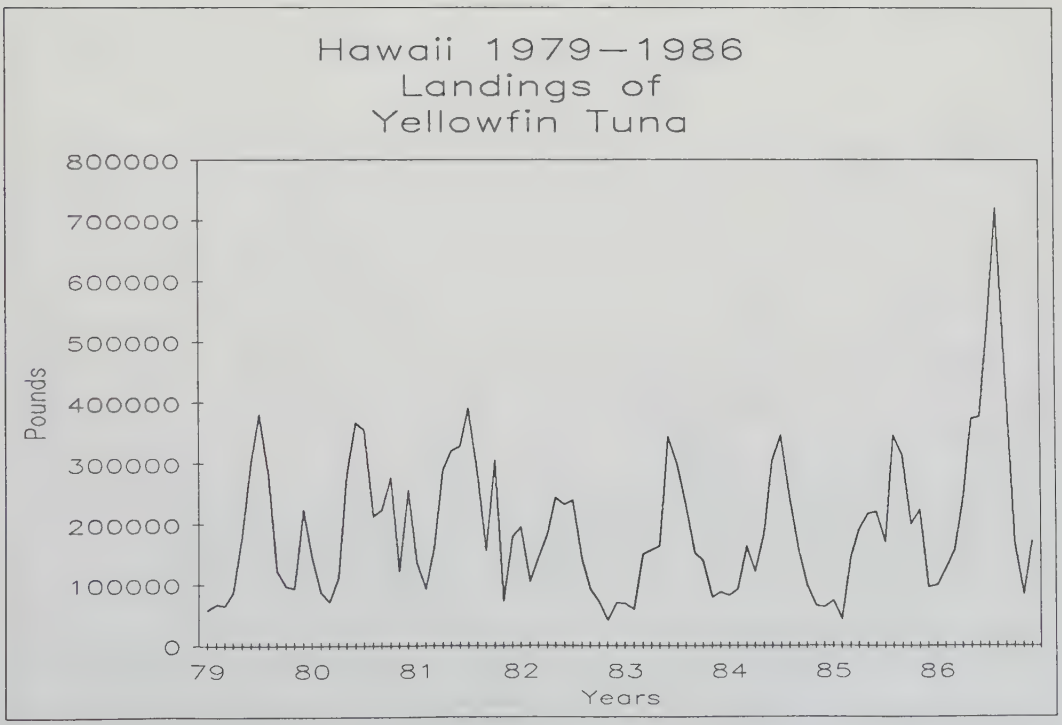

Figure V.5.11

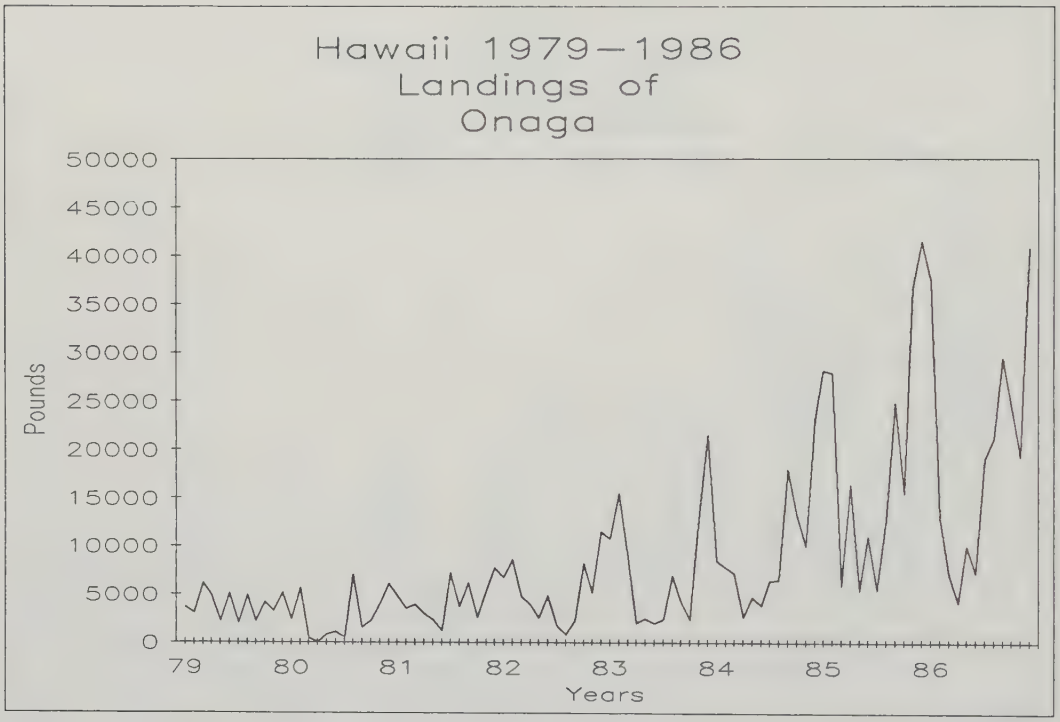

Figure V.5.12

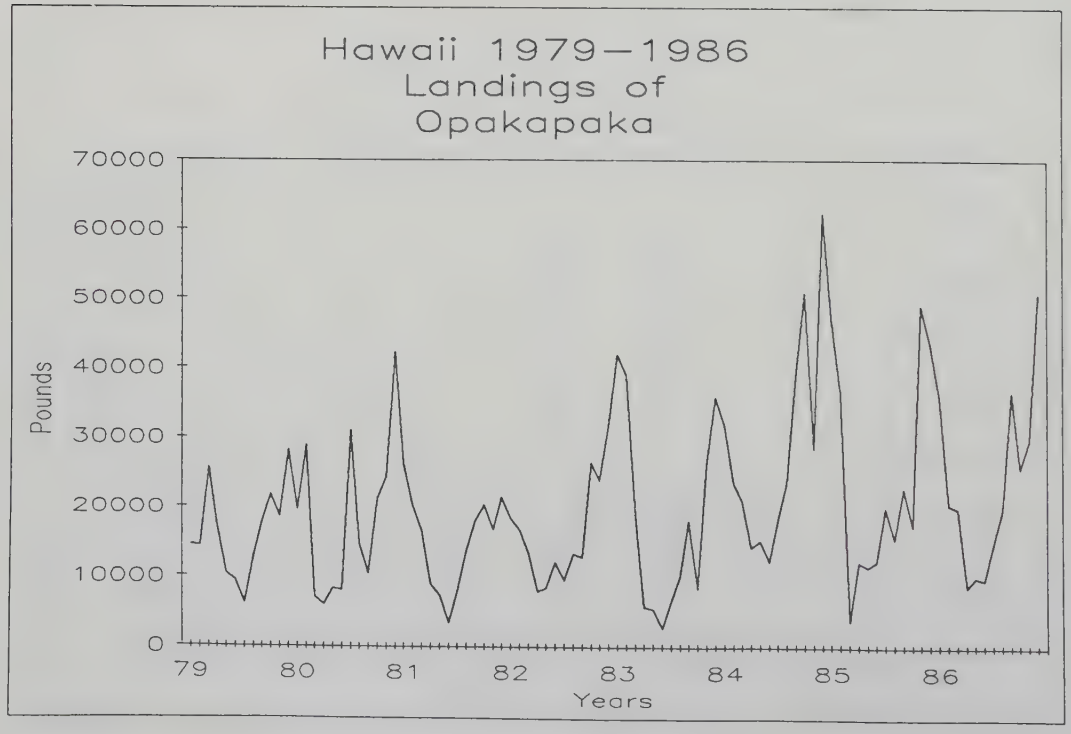

Figure V.5.13

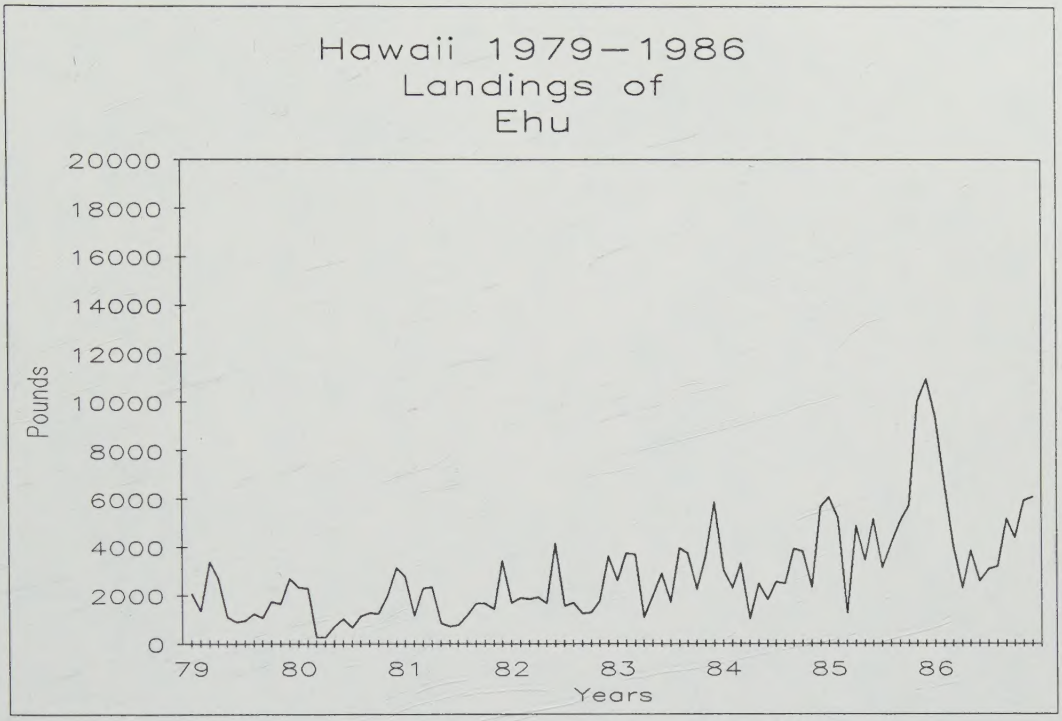

Figure V.5.14